ORGAN INSTITUTE QUARTERLY

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ANDOVER MASSACHUSETTS

ORGAN INSTITUTE QUARTERLY
Volume 6 Number 2

CORRECTION

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G. DONALD HARRISON

APRIL 21, 1889 — JUNE 14, 1956

This master organbuilder will long be remembered for the splendid instruments he created, and for his profound influence on modern organbuilding. He was a leader of the organ reform movement in the United States, and set artistic principles above financial gain.

He was a Trustee of the Organ Institute, and a generous contributor to its scholarship fund.

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* * EDITORIAL

PROFESSOR SETH BINGHAM GIVES US intimate glimpses of the work of Victor Gonzalez, and in so doing adds a broad vista to our world-wide perspective of organs and organ music. It is our purpose to keep readers informed of the ideas and practices of the entire organ world, so that the advantages of each new development may become available to all. We are grateful for this opportunity to publish the observations of such an eminent authority on the French organ scene.

BEGINNING IN THIS ISSUE THE FIRST English translation of the historically significant Orgelprobe by Andreas Werckmeister, which our good friend Dr. W. L. Sumner has prepared for us, will be published serially in the ORGAN INSTITUTE QUARTERLY. In other days it was customary to subject each new organ to acceptance trials, usually conducted by an eminent organist or by several prominent musicians, and occasionally, even, by other organbuilders. In setting forth the virtues and faults that should be noted at such examinations, the author gives us much valuable information about the organbuilding practices of those days, and also some insight into the prevailing concept of organ music.

ONCE AGAIN HOMER G. MOWE HAS written an article of the greatest importance in the field of voice pedagogy. Terminology presents difficulties in all fields of music, but general agreement as to meaning and use of terms in the field of voice teaching and vocal tone production has always seemed an unattainable goal. From this present article, which offers such clear and logical solutions for these difficulties it is easy to understand why Mr. Mowe has earned the special recognition of the American Academy of Teachers of Singing and of voice teachers everywhere.

BRIEFS ★ ★ ★

AT LONG LAST THE EDITOR SUBMITS HERE-with his report on European organs visited during the Organ Institute tour. It is written with the primary purpose of describing those features of European organs that are different from our own and appraising the possible value of incorporating them into American organs of the future.

THE BOARD OF TRUSTEES OF THE ORGAN Institute, at a meeting in the Spring of this year, decided to alter the structure of this corporation in order to permit a large number of individuals throughout the United States who have taken an interest in our activities to participate in them more fully by becoming members of the Organ Institute. Several classes of membership have been created.

For the first ten years the responsibility for both administering and financing this project has been borne by just a few individuals. One of the fundamental problems has been to keep the cost of our offerings low, in order that they may be available to as many young musicians as possible, while at the same time maintaining the highest musical standards. Just as in the case of so many other nonprofit educational institutions, expansion of our program will require stronger financial support. Accordingly, the present action of the Board of Trustees has been taken in order to seek the help and support of all interested persons.

Members will participate in two ways. First, by the payment of dues or larger sums, they will help to defray expenses. It is hoped that our resources may be gradually increased so that the cost of attending summer sessions can be proportionally reduced. At present there is great need for additional scholarship funds. Second, certain privileges and prerogatives will be a part of membership in the Organ Institute.

Are you familiar . .

with the great enrichment of the literature of the organ that has taken place in our own time, through the work of such composers as Alain, Bingham, Donovan, Haines, Hindemith, Kohs, Langlais, Messiaen, Pepping, Read, Simonds, Sowerby, Schönberg, Tournemire, Walcha.

Hear and study these works, together with masterpieces of every period and school at the Summer Session of the Organ Institute at Andover, Massachusetts, July 30 to August 18.

BRIEFS ★ ★ ★

Professional organists and musicians who wish to associate themselves with the corporation will be designated as Associates, and will enjoy the following privileges:

- Subscription to the ORGAN INSTITUTE QUARTERLY (all members)
- Use of the Organ Institute contacts and affiliations, both in this country and abroad, including letters of introduction whenever possible
- Placing of subscriptions and purchase orders for foreign publications and the availability, upon request, of foreign music publishers' catalogues
- Attendance at annual meetings of the corporation

MEMBERSHIPS

Associate (professional organists only) $15
Subscriber $25
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(Five annual payments of $200 each may be counted toward Life Membership)

In addition to the various classes of membership listed above, the Trustees will welcome outright gifts for scholarships. A gift of $5000 will permanently endow a full scholarship for attendance at a summer session. A single contribution of $200 will provide a scholarship for one year.

All donations to the Organ Institute, including membership dues, are deductable for income tax purposes.

Readers of the ORGAN INSTITUTE QUARTERLY are invited to become members. They may also be acquainted with others whose interest in music and organ music might prompt them to contribute to this cause. If so, the Director and Trustees of the corporation would be sincerely grateful if names and addresses of these prospective members could be forwarded to us.

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The old New England seaports,

Historic Salem, scene of the first witch hunts, and the House of Seven Gables,

Picturesque Gloucester and its fishing fleet,

Rockport with its artists colony,

The stately old homes of Newburyport,

New England's finest beach at Ipswich,

The beautiful White Mountains of New Hampshire . . .

They are all close to Andover, Massachusetts, a quaint New England town, home of the Organ Institute.

Organ Institute Quarterly Volume 6, Number 2, Summer 1956.

EDITOR: Arthur Howes
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(Entered as second class matter at Andover, Massachusetts)

ANDREÆ Werckmeisters/

Benic. Cherusci, p. t. Musici und Organ. zu S. Martini in Halberstadt

Erweiterte und verbesserte

Orgel-Probe/

Oder

Eigentliche Beschreibung/

Wie und welcher Gestalt man die Orgelwercke von den Orgelmachern annehmen/ probiren/ untersuchen und denen Kirchen liefern könne; Auch was bey Verdüngniß eines neuen und alten Wercks/ so da zu renoviren vorfallen möchte/ nothwendig in acht zu nehmen sey/

Nicht nur einigen Organisten/ so zu probirung eines Orgelwercks erfodert werden/ zur Nachricht: Sondern auch denen Vorstehern/ so etwan Orgeln machen oder renoviren lassen wollen/ sehr nützlich:

Jetzo von dem AUTORE selbst übersehen/ mit gründlichen Uhrsachen bekräfftiget/ und zum Druck befordert.

Quedlinburg/
In Verlegung THEODORI PHILIPPI CALVISII,
Buchhändlers daselbst.
Gedruckt bey Joh. Heinrich Sievert/ F. S. Hoff-Buchdr.
Anno 1698.

Andreæ Werckmeisters
Bened. Cervisiæ Musici
und Organisten an S. Martini
in Halberstadt
Erquickte und vermehrte
Orgel-Probe.
Quedlinburg
In Verlegung Theodori
Philippi Calvisii.
1698.

ANDREAS WERCKMEISTER

ORGELPROBE

TRANSLATED BY W. L. SUMNER—

TRANSLATOR'S PREFACE

> Mr. Handel, who was well acquainted with him was used to speak of him in terms of great respect and he was doubtless a learned and skilful musician. —Sir John Hawkins: History of Music

THE son of Joachim Werckmeister, Andreas was born in Benneckstein on November 30, 1645. He went to school in 1658 at Benningen, where his uncle, Christian, taught him music. On August 15, 1660, he proceeded to Nordhausen School under the Rector Hildebrand, and after two years he removed to the Gymnasium at Quedlinburg, where another uncle, Victor, had the position of Cantor. On December 24, 1664, Werckmeister was elected to the organist's post of Hasselfelde, Brunswick, where he remained for ten years. He refused organ positions at Ellrich in 1670 and Elbingerode in 1674, but accepted one as Hoforganist at Quedlinburg in 1675.

He married twice, in 1667 and in 1682, and had two sons and four daughters. In 1696, he accepted the posts which were to make him famous: those of organist of Saint Martin's, Halberstadt, and Inspector of all organs in Halberstadt.

He is now remembered by the short work which is here translated; but he was also a considerable writer and composer. His work on composition was greatly esteemed by Dietrich Buxtehude; and his book on temperament, tuning, et cetera, Musicae Mathematicae Hodegus Curiosus, was surveyed at length by J. Mattheson in Das Forschende Orchestre (1621). He composed "Sonatinen, Allemanden und Cour" (sic), which were published by Gross of Leipzig, Latomi of Frankfort in 1686, and Th. Ph. Calvisius in Quedlinburg, but all the copies seem to have been lost.

Werckmeister died in Halberstadt on October 26, 1706, and the biographical facts given above were taken from a funeral oration by Johann Melchior Goetzen, "Der weitberuhmte Musikus und Organist," published the following year.

WERCKMEISTER'S CHIEF WORKS

Musicae Mathematicae Hodegus Curiosus

A work on tuning and the mathematical aspects of temperament.

Th. Ph. Calvisius, Merseburg, 1686. Second edition, 1698.

Der edlen Music-Kunst Würde, Gerbrauch und Missbrauch

Th. Ph. Calvisius, Frankfort and Leipzig, 1691.

Musikalische Temperatur

A work on the temperament of the scale of keyboard instruments of every type.

Th. Ph. Calvisius, Frankfort and Leipzig, 1691.

Hypomnemata musica oder musikalisches Memorial

A short work addressed to an organist friend on composition, temperament, et cetera.

Th. Ph. Calvisius, Quedlinburg, 1697. Somewhat enlarged, Aschersleben, 1698. (Two further editions, one in 1715, the other undated.)

A. W. Bemic Cherusi p.t. Musici und Organ zu S. Martini in Halberstadt

A work on composition.

Th. Ph. Calvisius, Quedlinburg and Leipzig, 1700.

An enlarged edition: Harmonologia musica oder Kurtze Anleitung zur musikalischen Composition

Printed in Jena. Th. Ph. Calvisius, Frankfort and Leipzig, 1702.

Dietrich Buxtehude, a friend of Werckmeister, greatly admired this work. Reference: Vierteljahrsschrift, p. 573.

Organum Gruningense redivivum

G. E. Struntz, Quedlinburg and Aschersleben, 1705.

Reprint. Rheingold Press, Mainz, 1936.

An account of the Gruningen Castle organ and its examination by 53 experts.

Musikalische Paradoxal—Discourse

An account of secular and religious music with its "high and Godly origins" (posthumous).

Th. Ph. Calvisius, Quedlinburg, 1707.

The Thirty Years' War (1618-1648) left most of what is now called Germany in an impoverished and damaged state. The effect on the people was more than decimation; in fact, the population of 1648 was only a quarter of that in 1618. After the war, the Germans, with characteristic energy, were resurgent and showed the powers of recuperation which have marked each postwar period in their history. Hundreds of churches and organs were rehabilitated and renewed in the latter half of the seventeenth century. Unhappily much of the work in organbuilding was hasty and shoddy. The supply of artistic, durable work did not keep pace with the demand. Moreover, money was scarce in many districts and old organs had to be refurbished and made playable. Werckmeister's little book was intended to help organists, clergy, amateur organbuilders, and even "professionals" to understand the qualities of a good organ, how to preserve it and keep it in tune. In addition, it is implied throughout the book that church authorities should be on their guard against incompetent charlatans who pretend to be organbuilders.

The following editions of Orgelprobe (Organ-"testing") have appeared:

First. Published in Frankfort and Leipzig, 1681.

Second. Enlarged and improved edition, 82 pages. Th. Ph. Calvisius, Quedlinburg, 1698. (The present translation is made from this edition.)

Third. Edited by Struntz, Quedlinburg and Aschersleben, 1714.

Fourth. J. M. Teubner, Leipzig, 1754, 110 pages.

Fifth. J. J. Lotter, Augsburg, 1783.

Dutch translations, 1755 and 1775, by W. Lustig. A. Olofsen (Amsterdam).

Facsimile of second edition, Bärenreiter, Kassel, circa 1935.

Werckmeister's style is poor. Short sentences and phrases are strung together in a scrappy, breathless way. At times it is difficult to trace a connected chain of thought.

Arp Schnitger's Poem Praising the Work, Which Is Printed in the Introduction

How oft has man's spirit raised itself to Heaven, and conceived such an art, which cannot be too highly praised? If the world should awake and observe, it would see the wonders of man's spirit manifested in music, which if known before, was never practiced to such a degree. One man can control a great organ, and move thousands to devotion. But if it should be full of faults, what then of the organ? It would sound strange! Take away from this art pure harmony, and behold, a mere noise will only remain. Herr Werckmeister will now

introduce himself, a master of this work, a man of great gifts, and experience. He shows how a new organ should be examined precisely. O worthy of honor, whom all the wise esteem! Let there be no end to his fame. For since he honors the prize of the afterworld, so will his fame ever find a place with all the wise. Indeed, a great savant shows himself here, for he often condemns asinine fellows by his scorn, though well he knows a fool alone can bear it.

He, Master Werckmeister, will assuredly ascend to Heaven.
Such, to the honor of Master Werckmeister adds
Arp Schnitger, Organbuilder at Hamburg.

—In order that a sufficient part of the text shall appear in this first installment I have withheld all of Werckmeister's long introduction, dedication, and other preliminary matter, save this poem by Schnitger, until the next installment. (Translator)

ANDREAS WERCKMEISTER

ORGAN TESTING

CHAPTER I

THE CONTRACT MUST BE ARRANGED IN ADVANCE. WHO SHOULD EXAMINE THE ORGAN? CONSIDERATION OF THE BELLOWS AND THEIR SITE.

IN testing and examining an organ, it is necessary to consider all possibilities, and then rely upon the effects on the ear in forming one's judgment; and with all possible questioning make certain that that which is apparently good is actually proved worthy. It is also necessary to note and foresee what may happen in the future with a change of weather.

There might profitably be asked: Should the examination of an organ be entrusted to an organist, or to an organbuilder? Thereupon it is answered: The builder has a better understanding of the mechanical work than the organist. It also happens that one builder cannot examine another's work properly, since one of them always has principles or preconceived opinions differing from the other's, and so he may only condemn that which is made better than his own work. Frequently his opinions are so strong that he will admit nothing, even if convinced by indisputable reasons. Affectation and envy cling so tenaciously that one can see little good in the other, much less approve of the other's work. Indeed, experience itself often shows that in such an examination nothing but envy and strife exist; consequently, the best is often forgotten, and the examiners become quite confused. Moreover, one builder will not suffer another to examine his work. Therefore, it must be observed, organists must carry out this examining. Since an inquiring organist can best observe what changes may occur in an organ, then it is most advisable to have a few well-informed, unbiased organists at such a test. For even though they may not understand the fundamentals of the mechanical art, nevertheless they will find most faults, if the work is examined most diligently by ear, while on the other hand organbuilders are given to wrangling like "capricious dogs," and would quite forget the correction of the most important defects. Some organbuilders are so envious of each other that they would rather harm each other's work, and might even cut their bellows in two. Even before a start is made a contract should be drawn up for the builder's direction.

Concerning an inspection, it should first be noted that the bellows are placed so that they suffer no damage from bad weather, rain, snow, heat of the sun, dry air, or from an extremely damp site, et cetera; neither should they be situated under a roof

exposed to the sun, as the bellows will easily crack and become quite useless. Likewise the bellows must be protected from malicious people who run in to do damage, as, alas, often happens. It must also be noted that the bellows be made of good wood, that they rise sufficiently, that their movement is most even, quiet and slow, without rattling and creaking, so that wind is drawn in quickly and held; a good bookbinder's glue helps greatly. It is permissible for the bellows to have knots in the wood; but it is even better if the knotholes are plugged with wooden pegs and glue. Bellows must be loaded carefully and with the weight properly regulated. It happens that some builders are so inattentive as not to notice how deep the blowing levers[1] go down. I have found some that have gone down so far that the whole bellows has been lifted up high, and because of this, in a short time, the bellows has been torn. This defect appears very slight, but experience has shown that it can cause great damage. However, the bellows must be firmly fixed on the "tier," and must not overhang it; otherwise they will be shaken loose by the channel, and finally wind will escape, as experience has proved. Almost every builder has his own invention in certain aspects of his work. Provided it is good and efficient, it must not be depised without good reason, as is often the case.

Leakage of wind is not always the fault of the bellows, since the wind may escape in the channels and in the wind chests. It also presses through under the pallets.

CHAPTER II

Consideration of the pipework; how it should be made; chimney flutes.

If the bellows are correct and give a steady wind supply,[2] which can be discovered by the use of a special instrument, then pipework can be considered. Is it spaciously, or too closely, planted? In the latter case one has to allow for a distinct inconvenience, in that it cannot be tuned perfectly. Care should be taken that the pipework is not made of metal that is too thin, or that is otherwise bad and contains too much lead. If it is made too thin, it cannot be taken out without damage from handling.

Furthermore, the sound of such a thin pipe will never be as good and clear as that of a stronger one, since the whole pipe body is moved too violently by the vibration; it will always rattle. Here, however, the material must not sound, but the air within the pipe must produce the definite sound while a breaking of the air stream occurs in the mouth. Thirdly, the saltpeter[3] can eat through a thin body quicker than through a thick one, especially when the metal contains much lead. Also, they are tuned by pressing parts of the pipe in or out, or by ears, or by incisions (slots). In itself alone this is not bad, but the results are rarely good, partly on account of the pipe ends, partly on account of the heat of the finger, with which a pipe is set on speech. When the pipe becomes cold again the sound becomes deeper; thus a "tuning pipe" is good and convenient. Impatience and negligence in a builder can generally be recognized by carelessness in tuning and failure to use a pitchpipe to bring the organ to pitch. Good work will come rarely from such builders, so that the pipework might as well go for solder, and the chests and other work be scrapped.

Pipes having tubes (chimneys) must be made exactly to scale; open pipes must be perfectly circular at the top; stoppers for gedeckts must fit firmly; otherwise they sink down and cause impurity of tone.

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[1] The flat pieces of wood on which the blowers stood in order to press them down.
[2] The water manometer depicted in the frontispiece (Förner, circa (1648).
[3] The white powder referred to is not saltpeter, which is potassium nitrate, but is a basic lead carbonate or other basic lead salt.

However, the stopped chimney flutes have not great use, since there is little difference between these and a stopped flute. So many chimneys almost constitute another rank, and in that case why not have another rank?

If the languids of open pipes have been adjusted meticulously, then it is good. Sometimes, as in a gedeckt, the languid stands too high, or the "cut-up" is too high. In these things experience must be the best teacher.

CHAPTER III

DESCRIBES THE FURTHER CONSTRUCTION OF PIPES, AND HOW THEY SHOULD BE PRESERVED, SO THAT THEY REMAIN STABLE. HOW MIXTURES MUST BE CONCEIVED.

One must also consider whether the pipes are compressed at the feet, or riddled with holes, which indicates a fault in the wind chest. One might also note whether the open pipes still retain the superfluous metal, which is an indication of the maker's carelessness. Not less, are the solder joints secure? Also, are there sand holes, not easily discernible, which cause defects, so that the pipe either speaks with difficulty or incorrectly? The same clumsy soldering is also visible in the languid, so that when the pipe speaks, it hisses, for some builders do not even know how to avoid it. It is necessary to ascertain whether the languid is set at a right angle in the pipe, and whether it is set too high or too low. In metal pipes the languid can be bent somewhat, which to some extent is useful when voicing the pipe. One can also notice whether the upper lip over the mouth is set right. If not, it can be corrected by a "flatting plate" (a voicing tool). In the case of wood pipes, this is even more difficult.

The feet of larger metal pipes must be made strong enough so as not to buckle, otherwise the pipes fall on their sides, and damage other pipes. It is not enough for large pipes to be held by rack boards alone, but they must be secured at the top, as many good examples are. One calls to mind the fine work in Grüningen Castle.[4]

Mixtures must be taken into consideration: whether they are as "strong" as specified, and whether the mouths have been pressed so that they cannot be set on correct intonation and speech. Certain builders resort to an extreme and evil practice; they "compress" mixtures of many ranks, so that they contain fewer ranks than specified.

CHAPTER IV

HOW THE REED STOPS MUST APPEAR; LIKEWISE PIPE BODIES, MOUTH PARTS, TONGUES, BLOCKS, TUNING WIRES.

Concerning reedwork, one should see that the body is the correct length and width for its type, for if the body for the large keys, or bass, is very wide, then it will speak louder than the treble, or discant—and that is a shameful thing, and is rarely found in reed stops which are well regulated throughout. It sometimes happens that the length is not correct, and there is sometimes inadequate wind. Also difficulties arise with the tongue and mouthpiece, if they should not be exactly matched, the one wide, the other narrow. If reedwork is to be good and steady, great care is required. For tuning purposes they should not stand too near to each other; moreover, they must not be full of holes, otherwise they will produce a childish sound. They must stand firmly. The boot in which they stand must be sufficiently wide, so that the tongues do not stick; otherwise they cannot be voiced purely. Strong tongues are more reliable than soft ones, but they require heavier wind. The shallots must be strong enough, equally bored so that they lie exactly on the tongue, and not so weak that they loosen with tuning: not too

[4] See the list of Werckmeister's publications.

firm and not too loose! Bent pipes are apt to break and fall, especially if they are too narrow. Tuning wires should be of equal length, or made to proper proportions. Brass wires are better than those made of iron, since they do not rust so easily. The shallots and tongues should fit accurately in their tubes and the tubes should fit firmly in holes and boots, so that in tuning they do not fall apart. This is a difficult and vexing job. Brass shallots are the most reliable. They are also made of soldered metal and are so made that the tongues do not rattle too much. If they are not properly made they deteriorate quickly, especially with an inexperienced organist. The tongues must be made accurately to their proportions(in the scale).

Wooden tubes are also used, in which the body and shallot are secured in tin or metal boots. This practice is not always advisable, since when the wood contracts and the wind lifts the pipes out, they are scattered around the church. On the other hand, if the wood swells, the boots are split apart, particularly metal ones. Therefore they are made conical or pointed. It is less dangerous and altogether more advisable to have wood set in wood; the two swell or shrink equally, and remain firm, as experience shows, particularly when one kind of wood is used. Large shallots are often leathered, so that they do not rattle, and it should be noted that tanner's leather is better than raw leather, since it absorbs less moisture, which weakens the glue and causes it to loosen; tanner's leather remains dry and is stable in glue. The large bodies of the 16' Posaune are better made of wood than of white tin, which cracks so easily and spoils the tone. Because of its strength wood will not split easily. A metal body is good, provided it is strong.

CHAPTER V

Examination of wind chests, particularly channels and stop ventils

The wind chests will be worthy and durable if they are carefully made from good quality wood, sufficiently thick and sufficiently strong. The holes should be neatly bored and cleanly burnt out. The channels in which the sliders lie must be of the same kind of wood as the sliders. They must be properly fitted; otherwise they will be hard to draw, with changes of weather, so that eventually they stick, and this causes much work, to the disadvantage of the church. Further, it is bad to put oak sliders between pine "channels," since in damp weather pine swells more than oak, putting pressure on the sliders, and they cannot be drawn easily. On the other hand, in dry weather they draw smoothly, for in dry weather pine shrinks even more than oak.

It will not do to have two or three springs under some pallets and only one under others, since it causes some keys to be depressed easily and others with difficulty—and no one can produce good sound when there is unevenness of touch. Two types of springs under one type of pallet cannot be tolerated—one strong, the other weak—as this also causes unevenness in the keyboards, as is well known. Likewise it is necessary to remember that the pallets are actuated by levers, and should never be constructed so that with changes of weather they stick. Even if an organ is otherwise well built, but fails in that it "howls" (ciphers) at times, all its other virtues will be spoilt because of this —since then the instrument cannot be used at all!

Often the construction is such that one cannot get to the place where the howling originates, and nothing can be done about it, since the wood swells and shrinks. It would be desirable if organists could remedy this defect in cases of necessity; but instead, many an unmindful organist heaps curses on the head of the builder, and makes mountains out of molehills. There is one point concerning wind chests, especially those

made of pine: sometimes wind will force its way past the pallets and set up a "'whistle." This will happen if the wind chest swells and so pulls down the inner trackers, particularly since they are short and of precise length. This happens quite easily and the hearer will wonder at the cause of the "rustling" and "howling" so frequent in damp weather. What happens is that the pallets are thrust into the wrong position; but there are other causes of the defect. The pallets or "wind flaps" must be made of good wood, so that they cannot fall out of place,and they must be covered with leather which has been glued on smoothly and evenly. Above all, it must be ensured that all pieces close and fit properly. Indeed the leather must be smooth, so as not to let the wind creep in. One side of the piece should not be thick and the other thin anywhere in the construction of wind chests, which require absolute uniformity of thickness. The builder should see that good-quality leather is procured, evenly stretched and not overtreated with saltpeter,[5] which absorbs dampness and moisture. He must not spoil an organ merely for the saving of a little money for good leather, as often happens. As long as the organ stands it is always to his disrepute. The terms "howling" and "sticking" often occur and are confounded by many; but it must be realized the "howling" takes place if a key sticks or a pallet remains open—this can be heard everywhere. Partial ciphering is caused when wind escapes from one channel to another or between sliders and causes a pipe to speak, or hisses elsewhere.

The pallets or flaps should be arranged so that they are accessible in case of need. It is better that they should be long rather than short and broad; the springs should also be strong. The pegs (pins) between the pallets, must not be struck in too close, so that in damp weather the pallets will cling and stick. The pegs (pins) must not be too short; otherwise the pallets will stick (on them) if (the keys) are struck too forcibly, as experience shows. The "stoppers" must also be strong and well leathered and glued, so as not to let wind escape.

CHAPTER VI

On wind chests and organbuilders' secrets.

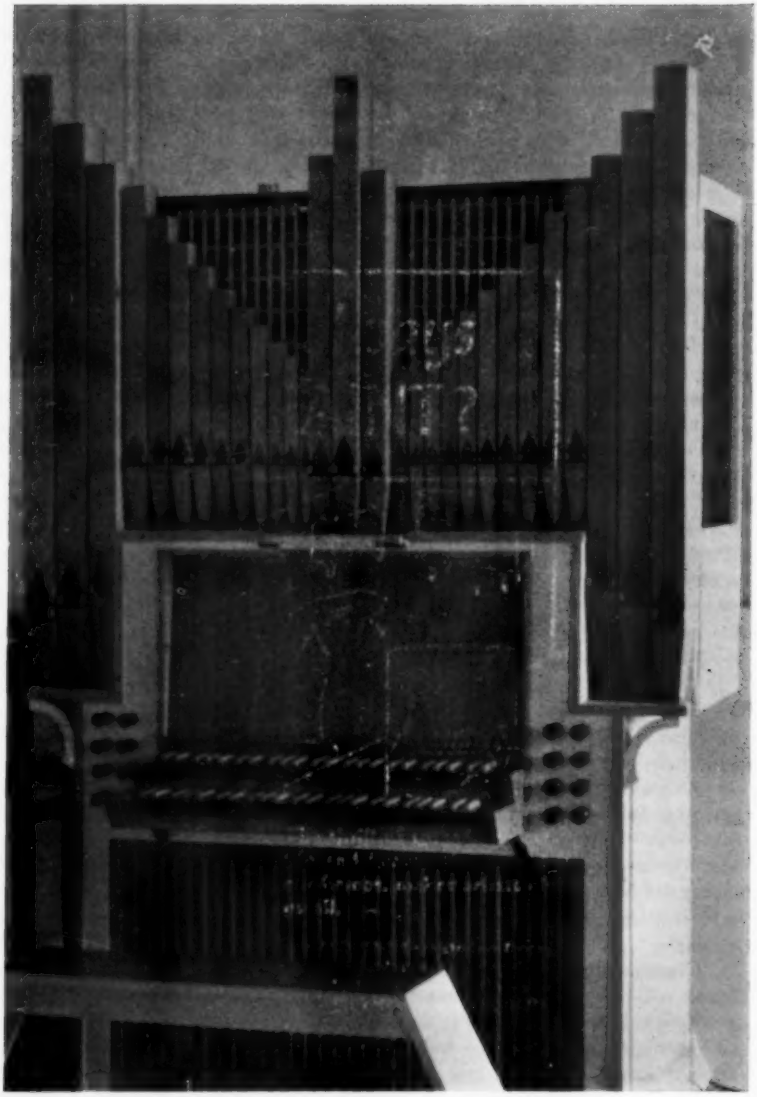
Glue must be poured on wind chests, channels, and bellows, else wind will escape through the pores, and none will know from whence. It must be secured by nails, or better by screws, for this is a great advantage.

Some builders are in the habit of boring small holes leading into the channels, so that the pallets do not shut off the wind properly. The wind escapes from one channel to another or via the sliders. One finds that such holes appear on the upper boards and if they are stopped up a hissing is caused. Here one must note if the pallet does not cover properly, or if there is something wrong with the lower board, the upper board, or a slider.

Organbuilders employ "secrets"[6] which in certain cases are beneficial rather than harmful. They cannot be described as defects, for some organbuilders have a reason which even the hundreth examiner might not discover. It is not to be praised, but necessity knows no law, and such a leakage of wind can do little damage. However, it is better if a man remains incorrupt in such a wasps' nest, without calamity; otherwise the defects can hardly be judged. Organbuilders may partly know to what I am alluding.

[5] This is actual saltpeter: a moderately pure potassium nitrate, somewhat contaminated with sodium and calcium salts.

[6] Werckmeister is referring to various methods of "bleeding" and "grooving" which were employed to carry away leaking wind, prevent unwanted sounds, and cover up defects which were often due to poor materials and workmanship.



Organ Built by Hemmersam of Copenhagen and Sent to Andover For Use in the 1955 Summer Session

SETH BINGHAM

VICTOR GONZALEZ - MASTER BUILDER

RELIABLE knowledge of organbuilding before the year 1400 is scanty. Thereafter information becomes more plentiful; sixteenth-century organs, some actually playable, still exist. As he grows familiar with the gradual evolution of the King of Instruments, many an organist probably shares this writer's feeling that if he had another organistic life to live, it would be as a builder rather than a performer.

Like the master glaziers of the Middle Ages, organbuilders have always had their jealously guarded secrets, often handed down from father to son. The use of woods, metals, and alloys; square, cylindrical, conical, or triangular pipes, their feet, mouths, languids, flues, stoppers, caps, chimneys; keys, trackers, rollerboards, sliders, valves, chests, pedals, couplers, bellows, wind pressures; treatment of principals, flutes, reeds, mutations, mixtures; scaling and voicing, location of organ case, relative strength and disposition of Great, Positif, Swell, and Pedal divisions; adjustment to size and acoustics of the building—these are among the builders' age-old problems.

As with architects and sculptors of cathedrals, organbuilders at their greatest have ever been a race of artist-craftsmen—experimenting, listening, testing, improving mechanism and tonal buildup, until in the seventeenth and eighteenth centuries the organ reached a peak of perfection which guides and inspires the enlightened builders of today. The celebrated names of Casparini, Arp Schnitger, the Thierrys, Silbermanns, and Clicquots, Father Willis, and Cavaillé-Coll, to mention but a few, are familiar to every student of organ history.

The present epoch has its quota of distinguished builders in America, Denmark, England, France, Germany, Holland, and Switzerland. The best of these are following similar lines: i.e., recapturing the best tonal features of the classic seventeenth- and eighteenth-century instruments, but enriched by some voices of later design and utilizing certain modern improvements in key action, combinations, and couplers.

From an aesthetic viewpoint, Victor Gonzalez stands preeminent in this group. It has been said that whereas a builder's lifetime output in Schnitger's time was forty organs,[1] some modern manufacturers turn out that many in a year (and, one is tempted to add, too often they sound like it). We have no production figures for Etablissements Gonzalez, but anyone noting the beauty of the individual voices and their perfect blend and balance in ensemble, must realize that the time factor counts for little in such exquisite artistry. In this respect Gonzalez is a worthy descendant of the great classic masters.

Born in Hacinas, Spain, in 1877, Victor Gonzalez while still a youth left his native country and came to Paris, where he was employed successively by Cavaillé-Coll (1894-1899) and by Merklin (1899-1914), starting at the bottom with an exhaustive study of the organ's mechanism. Having thoroughly mastered this phase, he turned his attention to tonal problems, and eventually attained high distinction as a voicer.

Mobilized in the first World War, Gonzalez was captured and obliged to work in a German organ factory. Following his return to France he established himself for a

[1] Dr. W. L. Sumner lists 143 organs built by Arp Schnitger (1648-1719), his sons or disciples.

number of years in Areveil, and in 1930 founded the firm of Victor Gonzalez and Son (at Chatillon-sous-Bagneux), which has since attained worldwide renown.

Artistically speaking, the work of Victor Gonzalez falls into three periods or phases, the first naturally reflecting the years spent with Cavaillé-Coll, showing a preference for the vigorous foundations and dominating reeds of that famous builder. During the second period the classical ideas of a German voicer in his employ inclined Gonzalez toward an extreme "baroque" design with special emphasis on mutations and mixtures. During these years of incessant practice and research, the artist in Gonzalez developed to full stature, so that the final phase reveals a mature, finished style which we might call neoclassic, combining the best elements of seventeenth- and eighteenth-century tonal design with certain desirable modern features—a style to which Gonzalez has steadily adhered for the past two decades.

Through a long acquaintance with this master builder it has been the writer's privilege to hear and examine a considerable number of instruments wholly or partially constructed by him. Most of these were completed within the past 25 years. In size and importance they range from the very large organ of Saint Eustache to the small orgue du choeur at Saint Jean de Luz. No two of them are exactly alike, but all bear the unmistakable stamp of his genius.

Among them we list the following, graded here according to size and number of stops when examined:

	Manuals	Stops
SMALL		
Guereza, the summer residence of André Marchal	2	8
Saint Jean de Luz, orgue du choeur	2	9
Paris, studio organ of Giuseppe Englert	2	16
Paris, studio organ of Norbert Dufourcq	3	21
Paris, studio organ of André Marchal	3	28
MEDIUM		
Versailles, Chapelle Royale	3	39
Vitré, Saint Martin's Church	3	39
Saint Omer, Church of Saint Denis	3	43
La Flêche, Prytanée Militaire	3	44
LARGE		
Bayonne, Cathedral	3	52
Paris, Saint Merry	4	65
Paris, Palais de Chaillot	4	80
Paris, Saint Eustache	4	84

Nothing better reveals the builder's resourcefulness than the design of a very small organ. We first tried out André Marchal's little 8-stop organ in Hendaye some 17 years ago. Although several ranks have since been added, its composition then was:

GREAT (unenclosed)
8′ Bourdon
4′ Prestant
II Cymbale

SWELL (enclosed)
8′ Quintaton
2′ Piccolo

PEDAL
16′ Soubasse
8′ Bourdon
4′ Flûte

COUPLERS
Swell and Great to Pedal
Swell to Great

From notes made at that time:

"One should hear this pungent Great Bourdon to realize its possibilities. The 12 lowest pipes are of wood. Clear even in the tenor-bass area where many bourdons tend to blur and fade. Pitch remains definite right to the bottom. Combined with the Prestant it suddenly assumes the timbre of a gently voiced principal.

"The little Cymbale imparts an astonishing brio to the ensemble. The marvelous Quintaton, matched against the Great Bourdon in a Bach trio sonata, gives the illusion of a reed. Its lowest octave is of wood. Everything blends with everything else. The swell box adds immensely to dynamic flexibility. All pedal pipes are wood; the upper 12 pipes of the 4′ Flûte are open. Wind pressure 6 centimeters."

Just as remarkable, though voiced more fully, is the 9-stop orgue du choeur constructed in 1930 on the side wall of the church in Saint Jean de Luz. Four or five of its separate ranks make up a singularly moving and expressive cornet. These with the remaining ranks achieve a surprising buildup under the church's concave wooden ceiling. A striking demonstration of how much can be done with so little!

The stop list:

Great (enclosed)	Swell (enclosed)	Pedal
8′ Bourdon à cheminée	8′ Principal	16′ Soubasse
4′ Prestant	4′ Flûte	8′ Bourdon
III Cornet (Nasard, Doublette, Tierce)	IV Plein Jeu	7 couplers. Wind pressure 8 centimeters
	8′ Trompette	

The two-manual salon organ by Gonzalez in the Paris residence of M. Guiseppe G. Englert is of recent construction (1954). It is admired by connoisseurs for its tonal resources and playing ease. The sixteen stops are disposed as follows:

Great, 61 notes (enclosed except Montre)	Swell, 61 notes (enclosed)	Pedal, 32 notes
8′ Montre	8′ Quintaton	16′ Soubasse
8′ Flûte à fuseau[2]	4′ Principal	8′ Bourdon
4′ Prestant	4′ Flûte	4′ Flûte (by extension 56 pipes)
2′ Doublette	2′ Quarte de nasard	
III Plein Jeu	1 3/5′ Tierce	
	II Cymbale	
	8′ Trompette	

Couplers (iron foot ratchets): Great to Pedal 8′. Swell to Pedal 8′ and 4′. Swell to Great. Great on, off. Swell on, off. Swell and Great combinations adjustable by quarter-turning the desired stop knobs. Tracker action, slider chest; wind pressure 59 millimeters (about 2½ inches).

The lowest octave of the Great Montre is of wood, the rest metal. The first 24 pipes of Great 8′ Flûte are stopped, the next 30 en fuseau, the top 7 are conical; the end result is homogeneous tone throughout the compass. Great Prestant and Doublette are principals. Plein Jeu begins as a 1′ with breaks at C^2, C^3, C^4, and G^5. Swell 4′ Flûte is stopped as far as A^2; the remaining pipes are conical. Principal 4′ is a somewhat softer and stringier version of the Great Prestant; similarly, Quarte de nasard is smoother and "flutier" than the Great Doublette. Tierce is a flute; Larigot, a slightly fluted principal. II Cymbal begins as a fourth at 1/3′ pitch with breaks at $B\flat^1$, $E\flat^2$, $B\flat^3$, and $E\flat^4$. With box open, the peculiar harmonic development of the 8′ Trompette offers something of the "picturesque rudeness of ancient trompettes" to quote Mr. René

[2] **Flûte à fuseau**—the upper (cylindrical) section of the pipe is surmounted by a cone with a small opening at the tip.

Desplat, who observes that, joined by the Tierce and Larigot, it approaches a cromorne, but paired with the Quintaton, it takes on the color of the "Franckian" oboe (at Sainte Clothilde). The stop is equally effective in the full organ ensemble; blended with the mixtures it gives the illusion of a 4′ reed.

The selection of stops and ingenious voicing make possible a number of unusual effects. The Great 8′ Flûte à fuseau with box closed furnishes a transparent background for the solo use of Swell Trompette, Quintaton, 4′ Flûte, 4′ Principal or 2′ Quarte; also for such Swell solo combinations as Flûte and Tierce, Quintaton and Larigot or Tierce, or for any Cornet group—Quintaton, 4′ Principal, Quarte, Tierce, Larigot, et cetera. Quintaton and Tierce faithfully reproduce a II Sesquialtera.

Pedal 16′ Soubasse (stopped) is entirely of wood; the upper octave of 8′ Bourdon (also stopped) is of metal; that of 4′ Flûte (open), metal.

So far as we know, a three-manual instrument of only 21 stops is a rarity in France. The salon organ in M. Norbert Dufourcq's Paris apartment has been revoiced, slightly increased and relocated in an enlarged room since we examined it in 1952. The organ's present makeup:

Great	Swell	Positif
8′ Montre	8′ Dulciane	8′ Quintaton
8′ Flûte à fuseau (formerly Bourdon)	8′ Bourdon	4′ Flûte à cheminée
4′ Prestant	4′ Viole (formerly Prestant)	2′ Quarte de nasard (formerly Piccolo)
2′ Doublette	II Cymbale	1 3/5′ Tierce
III Plein Jeu (formerly II)	1 1/3′ Larigot	
	8′ Trompette (in separate swell box)	
Pedal		
32′ Soubasse (resultant)	8′ Basse	8′ Trompette
16′ Soubasse	4′ Flûte	4′ Clairon (from Swell)

Manuals: Tracker action; Pedal: electric action. Manual and Pedal couplers (iron foot ratchets): Swell, Positif, and Great to Pedal. Swell and Positif to Great. Swell to Positif. Full Swell and Full Positif on, off.

Comparison with the previous stop list shows that the two are practically identical, save for a few more ranks in M. Dufourcq's installation, whose third keyboard permits greater freedom of registration. Otherwise, most of our description of M. Englert's instrument applies here as well. Neither specification includes a 2 2/3′ Nasard, both relying on the Quintaton and Larigot, plus the reinforcing influence of the Tierce on the overtone fifth of 8′ voices.

In the intimate surroundings of a salon the Gonzalez tracker action and slider chest offer the utmost in live emission and tonal refinement. In the Positif group with or without the Quintaton M. Dufourcq has a tierce-en-taille ensemble to gladden the heart of a De Grigny or a Couperin. And coupling the various unisons and mutations of the Positif with those of the Swell produces an unexpectedly fresh choice of timbres under partial dynamic control.

As to why anyone today should prefer cumbersome iron ratchets to reversible toe studs we can only guess. Hearing the term "toe stud," a French organist queried (in French), "You mean champignons (mushrooms)? Your word 'toe studs' is difficult to

pronounce!" So we suggested he call them toadstools. "Ah, yes, that is easier," he reflected, "the poisonous kind, n'est-ce pas?" We let it go at that.

In the larger Paris studio of André Marchal there stands an instrument remarkable alike for its great beauty of tone and for the astonishing variety of its resources.

Originally constructed by Gutchenritter, it began as a small organ with a few basic stops. Subsequent additions by Gonzalez have created a rich and flexible ensemble peculiarly reflecting the personality of its owner; it has depth, sparkle, clarity. Though the stop list suggests a fairly conservative neoclassic French design, the organ when played and heard reveals many subtle differences.

Even as a two-manual of 19 stops as recently as 1952, the organ created a striking impression. Carrying out the master's exacting requirements, Gonzalez has lavished science, time, and loving care on this rebuilding, for which two high-ceilinged rooms were turned into one. From the collaboration of organist and builder has come a musical masterpiece, perfectly adapted to its acoustical surroundings—a fitting vehicle for the execution of the best in organ literature from pre-Bach to Jehan Alain. Here is the new instrument's composition:

Swell (top, enclosed)	Great (middle, enclosed except Montre)	Positif (bottom, enclosed)
8′ Dulciane	8′ Montre	8′ Bourdon
8′ Viole céleste	8′ Flûte à fuseau	4′ Flûte conique
8′ Quintaton	4′ Prestant	2 2/3′ Nasard
4′ Principal	2′ Doublette	2′ Quarte de nasard
2′ Doublette	III Plein Jeu	1 3/5′ Tierce
1 3/5′ Tierce	16′ Ranquette (prepared for)	1 1/3′ Piccolo
1 1/3′ Larigot		8′ Cromorne
II Cymbale		
8′ Trompette		

Pedal		
32′ Soubasse	4′ Flûte	4′ Clairon
16′ Soubasse	16′ - 8′ Ranquette	4′ Chalumeau
8′ Bourdon	8′ Trompette	(prepared for)

Accessories: Couplers (tilting tablets, duplicated by reversible toe studs): Great, Positif, and Swell to Pedal 8′. Positif and Swell to Pedal 4′. Also, Great, Positif, and Swell to Pedal 8′, duplicated by hand pistons under respective manuals.

Under each manual are 6 adjustable combination hand pistons, tutti, and cancel. Also, under Swell, couplers off; under Great, pedal cancel; under Positif, adjuster and general cancel. Over the pedal are 6 adjustable pedal combination toe studs and 6 adjustable general combination toe studs affecting all stops and couplers.

Because this fairly large studio organ, now comprising 28 stops, is in many ways an outstanding example of the organbuilder's art, a more detailed description with some comment on each division should prove helpful, since it also applies to larger instruments to be studied further on.

Great (Grande Orgue)

Montre (unenclosed). The lower 16 pipes, of copper, are postés, i.e., fed by an air conduit coming from the chest. The remaining pipes, 75 percent of pure tin, are of medium scale with considerable harmonic development; they produce an admirable pervading tone. Flûte à fuseau pipes are 40 percent tin. The foot is an inverted cone; from the mouth upwards the pipe is cylindrical for about one-fourth its total length and surmounted by a cone with a small opening at the top. With the Great box closed it

serves as an accompaniment for Swell and Positif solo or combinations. With box open it becomes the ideal high-pitched solo flute (e.g., Andante Sostenuto from Widor's Gothic Symphony). Prestant and Doublette both principals; when combined with the Montre they form a balanced principal group, but either will also combine equally well with the Flûte à fuseau. Plein Jeu begins at 1′ pitch as a major triad in root position, breaks back at C^2, C^3, and C^4, then continues to the top as a second inversion triad, crowning the Great with a magic brilliance.

Positif

Bourdon is all metal except the 12 lowest (wooden) pipes fed by an air conduit. Like all Gonzalez bourdons, this one keeps beautiful pitch definition throughout. Its upper octave is round and full. Flûte, Nasard, and Tierce are conical, while the clear-voiced Quarte is cylindrical. All four are flutes, but Piccolo is really a very small and fine-grained principal. One must hear it to realize what it does for the cornet formed by these flutes. The addition of this one little rank invests them all with a principal color. The cornet itself, warm and luminous, sings with a velvety tone such as we have rarely heard save in the builder's work. The Nasard, for instance, neither screams nor dies out in the upper octaves.

Cromorne, not too obstreperous, still retains some of the delightful crustiness and irony of its seventeenth-century ancestor. Though primarily a solo stop, its rich upper harmonics mix easily with the full Great or the organo pleno of the Swell. The effect, if different from that of the Swell Trompette in the same ensemble, is equally good. (We found this hard to believe until we heard it demonstrated.)

Swell (Récit)

Quintaton, thoroughly characteristic, forms the basis of the Swell buildup. With swell shutters open it becomes a piquant solo voice; add the Tierce and its overtone fifth emerges much more distinctly. The small-scale Dulciane is a soft principal. It may serve to accompany Great or Positif solos or combinations: it joins the Viole Céleste to form an undulating stop (viewed with horror by the more rabid purists. Would they throw out the Adagio from Vierne's Third Symphony and other similar works calling for this stop?) In fact, Dulciane melts into practically any desired grouping.

The singing tone of Principal combines beautifully with the Quintaton. Doublette is clear and incisive, not screechy. Tierce is again a conical flute; Larigot, stopping at C^5, is of the same scale but less biting than the Doublette. Cymbale, of very small scale but with a wealth of acute overtones and plenty of bite, begins as a fourth (1/3′, 1/4′). It breaks at B^1, $F\sharp^2$, B^3, then continues a single 1′ rank until top D; but the last five degrees again use two ranks, in fifths. It is evident that infinite patience, care, and skill went into the composition of this Cymbale, always a difficult stop to voice satisfactorily.

Trompette is quite effective as a solo, either in its middle and upper registers with box closed, or in the tenor-bass area with box open (as in a basse et dessus of Couperin or Clérambault). Its reed is flat instead of round; the tone recalls vividly that of a trompette by the elder Clicquot.

Pedal

The 32′ Soubasse (resultant) is obtained through a prolongation downward from the 16′ Soubasse of 12 quinted pipes to form the lowest octave; similarly 8′ Bourdon is obtained by an upward extension of 12 pipes, the top eight being open. In 4′ Flûte the lowest 12 pipes are stopped, the top 20 open.

By coupling Positif 4′ Flûte or Swell 4′ Principal to Pedal at 4′ pitch, one gets a 2′ Pedal soprano solo for music such as Pachelbel's *O Lamm Gottes* and similar effects in Bach's chorale preludes.

Ranquette is a reed resembling a strong vox humana or musette minus the tremolo, with something of a cromorne added. However, it is here employed as the 16′ rank of the Pedal reed chorus where a bombarde or trombone would have been too prominent. The proof is in the pudding: this improbable-sounding Ranquette fits in very happily and imparts the necessary "edge" to the pedals in overall buildups from *f* to *fff*. Trompette and Clairon share with all the other stops in promptness of speech; they have the exciting flare and percussive attack that characterize the Gonzalez low-pressure reeds.

The listener usually notices two remarkable features in this organ: (1) the even quality extending from bottom to top of any rank; (2) the ease with which one tone color merges with another. Both features are naturally due to expert voicing and particularly to the builder's knack of "fluting" his principals and vice versa—a common characteristic of Gonzalez instruments. Just how he does it passes our humble comprehension.

The organ in the Royal Chapel of the Chateau at Versailles, well known to many organists, has already been fully described by the present writer and others, so that little comment is now necessary. Restored by Gonzalez in the 'thirties, the organ is exactly as it was in 1939 when I visited it with the late Fernand Gonzalez, the builder's son (killed in World War II). In June 1955 I attended a lecture in the Royal Chapel by Norbert Dufourcq, devoted to this unique instrument, for members of his Conservatoire class. A short program of period music admirably demonstrating the organ's characteristics was played by André Marchal on this occasion.

It should be noted that in restoring the organ Victor Gonzalez had access to the original specifications dating from 1679; consequently his work represents a veritable reconstruction requiring exact duplication of the ancient pipework—no mean accomplishment. Every visitor remarks on the peculiar percussive speech of the reeds.

Two medium-sized organs recently built by Gonzalez, one in Vitré (Brittany), the other at Saint Omer (Northern France), both illustrate the master's incorporation of classic organ design within his own mature style. Both are models of unhurried, sensitive craftmanship recalling that of medieval workers in stone and glass. The resulting purity of timbre, expressive color, and thrilling ensemble have attracted organists from far and near to hear and play these instruments.

The organist of Saint Martin's at Vitré is Abbé M. Brault, a young priest passionately interested in organ construction. We spent the better part of a day in August 1955 with the Abbé, who courteously gave up several hours to show us the ins and outs of his three-manual, 39-stop Gonzalez, of which he is justly proud. With an expert knowledge of the mechanism, he himself keeps the organ in first-class tune and working order, rarely needing the help of a maintenance man.

The general tonal effect is full and clear despite rather dry acoustics. For architectural reasons the Positif is not hung from the tribune rail, but placed between the C and C♯ sides of the Great, above which the Swell is located.

Other details: tracker action, slider chests, Barker lever in the Great; draw-stop action pneumatic; electric blower. Keyboards (reading downward): Swell, Positif, Great. Manual compass: 56 notes; Pedal, 32 notes. Plenty of room inside the organ;

everything accessible. All couplings are easy except Swell to Positif, which is somewhat heavier, but still readily playable for all but extreme staccato effects. Pipes of the Plein Jeu, Larigot and Cymbale are 75 percent tin; the others 35-40 percent.

Abbé Brault put the organ through its paces by playing selections from Walther, Couperin, Clérambault, Pachelbel, Bach, Langlais, and Litaize. We remarked the fine Cromorne with a certain amusing raspiness, the poetic oboe in one of the Bach numbers, the close resemblance of the Swell Plein Jeu to the Great Fourniture except for size; the subtly differentiated flutes, delightfully varied cornets and scintillating, clarifying mixtures. The stop list:

Great	Positif	Swell (enclosed)
16′ Quintaton	8′ Principal	8′ Flûte à cheminee
8′ Montre	8′ Bourdon	8′ Salicional
8′ Bourdon	4′ Prestant	8′ Voix céleste
8′ Flûte conique	4′ Flûte à fuseau	4′ Cor de chamois
4′ Prestant	2 2/3′ Nasard	2′ Cor de nuit
IV Fourniture	2′ Quarte de nasard	II Sesquialtera
16′ Bombarde	1 3/5′ Tierce	IV Plein Jeu
8′ Trompette	III Cymbale	II Cymbale
4′ Clairon	8′ Cromorne	16′ Bombarde
		8′ Trompette
		4′ Clairon
		8′ Hautbois
Pedal		
32′ Flûte	8′ Principal	16′ Bombarde
16′ Contrebasse	8′ Bourdon	8′ Trompette
16′ Soubasse	4′ Principal italien	4′ Clairon

Couplers: Great, Positif, and Swell to Pedal. Positif and Swell to Great. Swell to Positif. Couplers, combinations, and cancels operated by tilting tablets duplicated by reversible toe studs.

The organ was completed in 1948 and inaugurated on June 27 of that year by André Marchal, who drew up the specification. Abbé Brault quotes Norbert Dufourcq as writing shortly after the inaugural concert: "Your organ at Vitré is a model. Brittany has no other to compare with it. Brittany was a region of fine organs in the seventeenth and eighteenth centuries: let us hope that in your diocese the Vitré instrument may herald the resurrection, in the best sense of that word, of an aesthetic at once artistic and catholic, favored by tradition, taste—and the genius of Bach—You are fortunate to have had at Saint Martin the greatest builder of our century . . . "

For purposes of comparison we give immediately the composition of the new Gonzalez installation at the Church of Saint Denis in Saint Omer:

Great		
16′ Montre	4′ Prestant	V Cornet
16′ Bourdon	4′ Flûte douce	16′ Bombarde
8′ Montre	2′ Doublette	8′ Trompette
8′ Bourdon	IV Fourniture	4′ Clairon
8′ Flûte	III Cymbale	

Positif

8′ Montre	2 2/3′ Nasard	III Plein Jeu
8′ Bourdon	2′ Doublette	8′ Cromorne
4′ Prestant	1 3/5′ Tierce	
4′ Flûte à cheminee	1 1/3′ Larigot	

Swell (enclosed)

8′ Flûte à fuseau	2′ Doublette	8′ Trompette
8′ Dulciane	IV Plein Jeu	8′ Hautbois
8′ Voix celeste	V Cornet	4′ Clairon
4′ Viole		

Pedal

32′ Soubasse (resultant)	8′ Bourdon	16′ Bombarde
16′ Soubasse	8′ Flûte	8′ Trompette
16′ Contrebasse	4′ Flûte	4′ Clairon

Couplers: Great, Positif, and Swell to Pedal. Positif to Great, Swell to Great 8′ and 16′. Swell to Positif. Combinations: Full Organ. Full Great. Great, Swell, or Pedal: Reeds off. Eight Adjustable general combinations. Adjuster. Cancel.

M. Pierre Avot, the organist, like Abbé Brault, is tremendously interested in the art of organbuilding. He is a highly cultivated musician and a very competent player, having pursued his studies at the Paris Conservatoire. He has traveled extensively and visited many famous organs in European countries. As soon as he learned of our desire to examine the Saint Denis organ, he most hospitably invited us to stay at his beautiful home in Blendecques near Saint Omer. We held a long session with the Saint Denis organ, and also found time to visit other instruments in Saint Omer and Lille.

The specification for Vitré and Saint Omer do not appear too dissimilar in size, the latter having but 5 more registers; but the stop distribution is different:

Vitré	Great 9	Positif 9	Swell 12	Pedal 9
Saint Omer	Great 14	Positif 10	Swell 10	Pedal 9

Stop families:

Vitré	Foundations 5	Flutes, Bourdons 11	
Saint Omer	Foundations 9	Flutes, Bourdons 11	
Vitré	Mutations, Mixtures 17 ranks	Reeds 11	Strings 2
Saint Omer	Mutations, Mixtures 27 ranks	Reeds 10	Strings 2

The ancient and more spacious Saint Denis Church affords greater resonance, and the organ's four divisions are more ideally situated, calculated to sound most effective whether as separate units or together: Great and Swell in the middle, Pedal on either side, Positif on the tribune rail, speaking directly into the nave. The Swell, if a bit light, is in happy contrast to the massive brilliance of the Great and the virile tone of the Great's younger brother, the Positif. Antiphonal effects between these two classic ensembles must be heard to appreciate their nice adjustments of scaling and voicing.

Excepting the Pedal 8′ and 4′ Flûtes and the oaken pipes of the Great 8′ Bourdon and 8′ Flûte from a former instrument (1753), everything is new. There are several ingenious devices to assure an even wind supply, small auxiliary chests replacing conduits for pipes standing off the main chest. Five control reservoirs adjacent to the chests lend sure support to the sharpest staccato. Wind pressures from Great, Swell, and Pedal are 80 mm (about 3 3/8″), for the Positif, 75 mm (3 1/8″). Plein Jeu, Larigot, and

Cymbale are 75 percent tin. The Gonzalez tracker action gives a firm, live response, without the slightest hardness of touch. The console, with electricaily operated reversible couplers, combination pistons, and toe studs, presents much the same appearance as a modern American console.

The organ was given a thorough working-out by M. Avot with selections by Couperin, Bach, and later composers. We mention here but a few of the many striking effects: Duo between Positif Flûte and Nasard and Swell Oboe. Duo between Great Flûtes (8′ and 4′) and Cromorne (rather like a fat clarinet). The very useful Swell and Positif cornets are both excellent but different. The Positif III Plein Jeu and separate mutations afford an amazing variety of color combinations. The mixture work, like that of the Dutch organs at Gouda and Alkmaar, is of great clarity and refinement. The stair-climbing Pedal reeds against the organo pleno gives the Bach Credo an authentic ring.

In addition M. Avot played me a tape recording of a recent recital by Gaston Litaize of works by De Grigny, Couperin, Vierne (Niades), Alain (Variations on a Jannequin theme), Messiaen (Les Anges, Enfants de Dieu), and Litaizes's own Liturgical Prelude No. 14 and Variations on a Noël—pedal reeds again sounding to great advantage. There was thus an opportunity to appreciate the organ's adequacy for the interpretation of twentieth- as well as eighteenth-century music. As if to dispel any lingering doubts, our friend added a recording of Marchal's tremendous inaugural improvisation.

The Saint Denis organ at Saint Omer resounds with the fullness, clarity, and distinction which characterize the finest Gonzalez product. All considered, it is the most satisfactory instrument of its size we remember hearing.

Of the very interesting 44-stop organ in the Prytanée Militaire at La Flêche, already fully described in the December 1953 issue of The Diapason, we merely repeat that it represents a complete restoration by Gonzalez with the addition of a Swell division faithfully designed in the style of the original seventeenth-century instrument.

The three-manual 52-stop organ in Bayonne Cathedral was built by Gonzalez in 1936. Except for a 2 2/3′ Quinte and an extra rank in the Cymbale (IV), the Great is identical with that of Saint Omer, though somewhat more powerfully voiced; the Swell is definitely larger (18 stops). The number of stops in the Positif (10) and Pedal (9), is the same in both instruments, but a comparison reveals several differences. Following is the composition of the Bayonne instrument:

GREAT

16′ Montre	IV Fourniture	4′ Flûte à cheminee
8′ Montre	IV Cymbale	V Cornet
4′ Prestant	16′ Bourdon	16′ Bombarde
2 2/3′ Quinte	8′ Bourdon	8′ Trompette
2′ Doublette	8′ Flûte harmonique	4′ Clairon

POSITIF

8′ Flute	2 2/3′ Nasard	8′ Trompette
8′ Bourdon	2′ Quarte	8′ Cromorne
8′ Salicional	1 3/5′ Tierce	
4′ Flûte creuse	IV Plein Jeu	

SWELL

8′ Montre	16′ Quintaton	1 3/5′ Tierce
8′ Gambe	8′ Flûte	8′ - 16′ Bombarde
8′ Voix céleste	8′ Bourdon	8′ Trompette
4′ Principal	4′ Flûte	4′ Clairon
V Plein Jeu	2 2/3′ Nasard	8′ Hautbois
IV Cymbale	2′ Quarte	8′ Voix humaine

PEDAL

16′ Flûte	8′ Bourdon	16′ Bombarde
16′ Soubasse	8′ Flûte	8′ Trompette
8′ Basse	IV Fourniture	4′ Clairon

Usual couplers and accessories.

The buildup at Bayonne, while maintaining approximately the same balance between Great, Positif, and Pedal and substantially increasing the Swell, must necessarily produce greater volume and power in view of the Cathedral's larger acoustical space. The problem has been successfully solved without sacrificing quality.

It is probably true that the addition of a fourth manual and 30-odd ranks, especially if designed by this builder, would enhance the impression of majesty and grandeur. Be that as it may, the Bayonne organ sings with dazzling sonority; the unerring instinct of the builder has synthesized the multiple voices into divisions, each with its own personality; the divisions into a rich and varied ensemble on which organ music of all schools and periods can be performed.

While teaching in the United States Army University at Biarritz in 1945-46, it was the writer's privilege to hear and examine this beautiful instrument on several occasions. We arranged a recital by Marcel Dupré, who offered a splendid program including Bach, Couperin, Handel, Mozart, Franck, Widor, and his own "Crucifixion" and Prelude and Fugue in G minor. André Marchal was heard in a series of three concerts devoted respectively to Bach, Franck, and a delightful French program featuring Couperin, De Grigny, Clérambault, D'Aquin, Vierne, Dupré, Messiaen, Bonnal, and Alain. These programs furnished convincing evidence of the organ's great versatility.

The Church of Saint Merry is one of the oldest in Paris. The present one, constructed between 1510 and 1553, replaced a thirteenth-century edifice whose eleventh-century predecessor had formed a chapter of Notre Dame. (Saint Merry's became a parish in the seventeenth century). Surviving the changes of 400 years, the building still retains much of its ancient charm, particularly in the well-proportioned interior with many fine decorative details.

Not much is known of Saint Merry's organs before 1647, when an enlarged instrument was set up over the church's main entrance. It was improved and further enlarged in 1660, restored in 1719 and placed on a new organ gallery in 1755. A new instrument was erected (1781 or 1791) by François-Henri Clicquot or by his son François. As constituted in 1802 it had four manuals: Great, 16 stops; Positif, 11 stops; Récit (Swell), 3 stops; Echo, 2 stops; Pedal, 5 stops.

The organ was rebuilt in 1857 by Cavaillé-Coll who changed several Great stops, added to the Swell which he enclosed, revoiced the pipes, cut the mouths higher, raised the pitch a semitone and stepped up the wind pressure. Fortunately, the Clicquot cornets and mixtures were left untouched.

In 1948 Norbert Dufourcq, the organist, illustrated in detail and en masse for this writer the original Clicquot work—about 36 stops. The buildup of the Great and Positif, now practically the same as they were 150 years ago, would reflect glory on most modern organs. M. Dufourcq then demonstrated the new Gonzalez stops including 14 mixture ranks, playing them separately and in combination with those of Clicquot. So cunningly are they blended that one may hardly distinguish the old from the new.

A further hearing during the past summer (1955) confirmed our former impression. The warm, singing quality of the flutes, the sparkle of the mixtures vividly recall those of Alkmaar, Gouda, Amsterdam, and Haarlem. The similarity of voicing extends even to the principals. As for the Gonzalez-Clicquot reeds, they differ both from the smooth high-pressure tubas of Father Willis and the blazing, "tigerish" trumpets of Cavaillé-Coll, but they merge effectively with the organo pleno. This splendid instrument impresses us as one of the best balanced of its size in Paris.

The organ of the Palais de Chaillot was built by Cavaillé-Coll in 1878 for the Trocadero. There, nearly 50 years ago, we heard Alexandre Guilmant in a concert which included the Saint-Saëns Concerto in C with organ. Originally a four-manual of 66 stops, it was rebuilt and increased to 80 stops and 7000 pipes by Gonzalez in 1838-39. During World War II Marchal played a series of concerts on the Chaillot organ with commentaries by Dufourcq; there were several other series in 1946 and 1947, usually to packed houses. Many other famous artists have been heard there.

Regrettably, for several years now the management of Chaillot has preferred theatre and opera performances to organ recitals, and the big instrument is gradually falling into ruin for lack of normal care and maintenance.

Detailed descriptions of the organ, including an illustrated brochure by Dufourcq, have been published in recent years. Suffice it to say that the whole structure is encased in an enormous steel box on wheels. When not in use it is rolled to the back of the immense stage and hidden by an iron curtain (a real one!), leaving the stage free for other activities.

While practically all the Cavaillé-Coll pipework was retained, everything was renewed, repaired, reharmonized; the outdated mechanism was modernized, with an entirely new console. Of the 15 new Gonzalez stops, 9 are mutations or mixtures comprising 22 ranks. Added to the original 21 mixture ranks, they climax and illuminate the entire tonal mass. The remaining additions were: Positif 4′ Prestant, 4′ Chalumeau; Swell 4′ Viole, 1′ Piccolo; Pedal 32′ Montre, 4′ Octave.

Next to Notre Dame, Saint Eustache is the largest and tallest church in Paris. From 1559 when it was being built, Saint Eustache has had organs, but little is known about them. In 1802 a large instrument from the Abbey of Saint Germain-des-Près was installed, having four manuals, 59 stops, and a double pedalboard! It was destroyed by fire in 1844. A new organ of four manuals and 68 stops by Ducroquet was inaugurated by Franck and Lemmens in 1854, including the magnificent Pedal principal now listed as 32′ Flûte.

We cannot resist quoting from a contemporary observer's ecstatic description of the buffet: "The ceiling is ornamented by a compartment of panels and rosaces with suspended coronets enriched by foliage held by garlands of flowers and fruits beneath the turrets which in turn are surmounted by carven scaly cupolas terminating in perfume-vases(!) The turret-bottoms form corbels alternating with monsters, griffins, harpies, and night-owls. The canopies over the pipes are cut into leafy branches where one perceives

swans attacking serpents, birds playing with lizards, etc. . . Above the left-hand turrets, seated on a sumptuous throne, Saul furiously brandishes a javelin; on the right, David seeks to calm Saul's agitation with the strains of his harp . . . ."

In 1876 Merklin restored and increased the organ to 72 stops. A rebuilding project begun by Rinckenbach in 1927-28 proved disappointing, and the firm of Gonzalez took over the work in 1929. Some 60 of the original Merklin or Ducroquet stops were revoiced and the others shifted, changed, or discarded. The writer was present at the Benediction and inaugural concert by Joseph Bonnet in Saint Eustache on February 18, 1932, before a congregation of 7000 people. (An account of this appeared in The Diapason.) In the past decade under André Marchal's supervision, Gonzalez has effected divers changes and additions, notably in the mixtures, greatly increasing the usefulness of this glorious instrument.

Its present disposition:

GREAT
16′ Montre
8′ Montre
8′ Flûte harmonique
8′ Flûte à pavillon
8′ Gemshorn
8′ Bourdon
8′ Gambe
4′ Prestant
4′ Flûte à cheminee
2 2/3′ Quinte
2′ Doublette
V Cornet
IX Plein Jeu
16′ Bombarde
8′ Trompette
4′ Clairon

POSITIF
8′ Montre
8′ Bourdon
8′ Flûte à fuseau
4′ Prestant
4′ Flûte
2 2/3′ Nasard
2′ Doublette
1 3/5′ Tierce
1 1/3′ Larigot
1 1/7′ Septième
1′ Piccolo
IV Plein Jeu
8′ Trompette
4′ Clairon
8′ Cromorne

PEDAL
32′ Flûte
16′ Flûte
16′ Contrabasse
16′ Violoncelle
16′ Soubasse
8′ Flûte
8′ Bourdon
8′ Violoncelle
4′ Flûte
10 2/3′ Quinte
32′ Contrabombarde
16′ Bombarde
16′ Basson
8′ Trompette
8′ Basson
4′ Clairon

SWELL (enclosed)
16′ Flûte à cheminee
8′ Principal
8′ Flûte harmonique
8′ Bourdon
8′ Gambe
8′ Voix céleste
4′ Octave
4′ Flûte ouverte
2′ Doublette
V Dessus de Cornet
IV Fourniture
IV Cymbale
16′ Bombarde
8′ Trompette
4′ Clairon
8′ Hautbois
8′ Voix humaine

SOLO
16′ Gambe
16′ Bourdon
8′ Gambe
8′ Flûte majeure
8′ Diapason
4′ Principal
2′ Doublette
IV Cornet (4′)
V Plein Jeu
IV Cymbale
16′ Bombarde (en chamade)
8′ Trompette (en chamade)
4′ Clairon (en chamade)
8′ Cor Anglais

ECHO (enclosed)
8′ Quintaton
8′ Salicional
8′ Unda Maris
4′ Dulciane
IV Cymbale
8′ Cor de Basset (Willis)

REVERSIBLE TOE STUDS
4 Pedal Couplers
6 Manual Couplers
Reeds off, on
Tutti

5 Fixed General Combinations, 5 Adjustable General Combinations, 2 Adjustable Pedal Combinations, 25 Adjustable Manual Combinations, Crescendo Pedal

In the intervening years, despite successive repairs and stopgap measures, the organ steadily deteriorated. In 1943, on the advice of Joseph Bonnet and André Marchal and with the approval of the Commission of Historical Monuments, its restoration was confided to Victor Gonzalez, with the City of Paris and the French Government providing the necessary funds.

This was a thoroughgoing reconstruction involving first a careful dismantling, then many tonal transformations, relocation of the Swell, complete overhauling of the inner works, new distribution of chests and feeders, replacement of the old drawstop mechanism by a pneumatic system, complete revoicing, installation of a new console with modern tilting tablet couplers, reversible combination pistons and toe studs, et cetera.[3] The addition of 21 new stops raises the total to 65. The organ as now composed:

Great (1,244 pipes)	Positif (864 pipes)	Swell (enclosed) (960 pipes)
16′ Montre	8′ Montre	8′ Principal
8′ Montre	4′ Prestant	4′ Viole
4′ Prestant	2′ Doublette	2′ Doublette
2′ Doublette	III Plein Jeu	IV Plein Jeu
IV Fourniture	II Cymbale	III Cymbale
III Cymbale	8′ Bourdon	16′ Quintaton
16′ Bourdon	4′ Flûte	8′ Bourdon
8′ Bourdon	2 2/3′ Nasard	8′ Dulciane
8′ Flûte	1 3/5′ Tierce	8′ Voix céleste
4′ Flûte	1 1/3′ Larigot	4′ Flûte
2 2/3′ Nasard	8′ Trompette	16′ Bombarde
1 3/5′ Tierce	4′ Clairon	8′ Trompette
V Cornet	8′ Cromorne	4′ Clairon
16′ Bombarde		8′ Hautbois
8′ Trompette		
4′ Clairon		

Pedal (402 pipes)		Echo (462 pipes)
32′ Soubasse	III Cornet	8′ Flûte
16′ Montre	8′ Flûte	4′ Flûte
16′ Contrabasse	8′ Bourdon	2′ Quarte
16′ Soubasse	4′ Flûte	II Cymbale
8′ Principal	16′ Bombarde	II Cornet
4′ Principal	8′ Trompette	8′ Dessus de Hautbois
2′ Doublette	4′ Clairon	8′ Voix humaine
V Fourniture		

Six general adjustable combinations, Tutti, Grand Plein Jeu. Tilting tablets (duplicated by toe studs) for couplers, reeds, and combinations.

While preserving all the ancient pipework and some of Cavaillé-Coll's, Gonzalez restored or slightly altered 10 Clicquot stops and added 21 new registers. What is remarkable is the adaptation of his new work to the old ensemble, rounding out the several stop families—foundations, reeds, mixtures—one might say, in the Clicquot idiom.[4]

[3] For a detailed account see Dufourcq: Le Grand Orgue et Les Organistes de Saint-Merry de Paris (Librarie Floury, 1947)

[4] Next to the Clicquot instrument in Poitiers Cathedral, we believe Saint Merry's today gives us the truest idea of the flues and reeds of that celebrated family of builders.

From what has been said of these instruments the reader will have gained some idea of the painstaking care, time, and skill that go into their construction. As for foundations, mutations, and mixtures, Gonzalez has much in common with such builders as Schnitger, Vater, Moreau, and Müller. But the Gonzalez reeds, akin to those of Clicquot, play a more important part in the ensemble. In contrast to Cavaillé-Coll's chorus reeds, which cap the organ's *fff* climax, those of Gonzalez share this *fff* function on a more nearly equal basis with the full flue chorus, creating a fused sonority of incomparable richness.

Tracker action, which he has brought to a high state of perfection, and the slider chest, are preferred by Gonzalez for all but his largest installations or in exceptional cases where the console must be far away from the pipes. Since he seldom finds it necessary to nick the languids, even slightly, wind pressures are correspondingly low, rarely exceeding 3 inches; the pipe speaks with delightful precision, the tone retaining its full bloom[5].

French stop nomenclature is fairly simple and consistent. The French are less inclined than others to list the same stop under three or four different aliases (in several languages). Hence one should not be misled by identical labels—8′ Montre, 4′ Flûte, Plein Jeu, 16′ Bombarde, 8′ Trompette, 4′ Clairon, et cetera, several times repeated in French stop lists. One need not fear exact duplications; in a Gonzalez specification each rank will have been proportionately scaled and graded with reference to the whole.

On closer acquaintance, the truly great man in whatever walk of life usually turns out to be a modest and simple person, and Victor Gonzalez is no exception. Rather short and stocky, with handsome features, now in his 80th year, the body is somewhat impaired, but the mind still young and alert, the old skill and know-how intact. "A good organier needs not only a keen ear but a pair of hands," is the way Gonzalez sums it up; and the supple movements of his intelligent fingers when handling a delicate piece of mechanism confirm this.

Finally, one may ask, of what use and to what end is this amazing aural and manual virtuosity? Obviously this man cares more for artistic ideals than for big commercial profits. One hears in his organ voices a note of spirituality quite in keeping with his own strong yet humble religious faith. In the frightening materialistic wave of scientific discovery and monstrous technological advance which threatens to engulf us, we may well give thanks that such men still live and labor amongst us. True, the things of Caesar must be rendered unto Caesar, but this great artist-builder evidently feels that the highest purpose of his God-given talent is to give back all he can in gratitute to God.

M. Gonzalez suffered a heavy blow in the death of his son Fernand, whom he counted on to succeed him. But other fine craftsmen have been formed in the Gonzalez tradition, and several have already established their own firms. It augurs well for the future of organbuilding in France and Europe. Meanwhile, the magnificent creations of Victor Gonzalez stand as an enduring monument to his greatness.

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[5] One day as we spoke of nicking, Gonzalez handed us a pipe from a loose pile on a table. The languid was heavily nicked. "But, how come?" we asked. "It's from America," he replied with a chuckle.

RENAISSANCE CASE OF ALKMAAR ORGAN. PIPES OF INCOMPLETE OLD 32′ PEDAL PRINCIPAL, EXTENDING DOWN TO G ONLY, ARE NOT IN USE AT PRESENT.

ARTHUR HOWES

AN AMERICAN ORGANIST DISCUSSES EUROPEAN ORGANS

WHEN the Organ Institute tour of European organs was first contemplated there was already a widespread interest in the fine old ograns built in the eighteenth, seventeenth, and even sixteenth centuries that are still heard and played on the continent, but of which we unfortunately have no examples in this country. The strong influence of these models on the work of leading contemporary European builders heightened this interest and made it seem imperative for us to examine both the old and the new instruments there in order to learn if their special virtues would be suitable for use in American organs.

The organ reform movement sprang from the general dissatisfaction with the degraded instruments of the late nineteenth and early twentieth centuries, and particularly as a result of direct comparison with the superior work of the past. Launched by Albert Schweitzer and a few of his friends in the early years of this century, it slowly gathered momentum and finally gained recognition and direction at the Organ Congress at Hamburg in 1926. In the United States the influence of the movement was seen in the reappearance of mixtures, brighter voicing, the development of a clearer, better blended ensemble, the exposed pipe cult, and the gradual abandonment of the decadent era's worst practices.

In Europe the leading builders have gone further in the direction of reestablishing old principles of design, construction, and voicing, with some modern adaptations. Most of them now build instruments with slider chests, direct mechanical action, and pipes voiced in the old way, of which a sometimes prominent feature is the much discussed absence of nicking in the windway. It should be remembered that the manner in which the wind is delivered to the pipe exerts an influence on the tone, so that each type of windchest more or less leads to its own style of voicing.

The explanation of the more complete change of procedure in Europe is not hard to find. First, naturally, is the strong appeal exercised by the charm and pre-eminent musical worth of the old organs, immediately at hand for imitation. Second, there was more dissatisfaction with the various types of windchests and actions that had superceded the slider-tracker organ in Europe. However these decadent organs may have compared with ours tonally, their action was generally inferior to our best examples of electro-pneumatic action. Many tubular-pneumatic organs were built there with detached consoles. This action was very slow, so that the inferior type of electro-pneumatic action that replaced it still remained slower than direct mechanical action.

It may be said without any reservation that our finest electro-pneumatic organs are unexcelled and seldom equalled in Europe. The one instrument of this kind on which I played there that even approached our highest standard showed strong American influence; its builder worked in one of our well-known factories for several years. In fact, with respect to all points in which American and European organs are similar ours can safely withstand any comparison. The main purpose of our study, however, is to learn about and appraise those characteristics of old and new European organs that are different from our own.

Assembling the data obtained from visiting fifty different organs, of which some were examined in great detail, produces ample material for a complete book. It seems advisable, therefore, to make this a summary report in which matters are considered from the standpoint of the organist as he sits and plays these instruments. The musical characteristics and virtues will be described and explained; additional technical details will be incorporated in subsequent articles dealing with separate phases. These observations, then, will be limited to the musical results of the organbuilding practices found in the celebrated old organs, and in the work of certain contemporary builders, with modifications.

All but one of the organs visited were placed as high as possible, usually against a wall. This placement is undoubtedly ideal for the projection of tone to all parts of the building, but the ascent to these elevated organ galleries and tribunes is often long and strenuous, so it is pleasant to finally find one's self comfortably seated on a padded organ bench, covered with smooth leather. These are common in Europe, and we should like to urge the Associated Organ Builders of America to adopt them as standard equipment here. In the old organs the keyboards are often placed in a space recessed into the organ case, in a position well forward of the pedal keys, which are outside the case. This means that a long-legged organist wearing size 12 shoes has to avoid striking his toes against the panel of the case below the keyboards, which is straight and has no opening for expression pedals, and also play white pedal keys with his feet well back, sometimes even tucked under the bench. It is difficult to retain one's balance in this position while treading out a lively Bach fugue. Modern builders have improved this situation, but they still retain the straight pedal board, which makes the farthest keys seem very far away indeed.

The keyboards themselves are different from ours in that few have ivory surfaces on the natural keys, which are usually black, with lighter colored wood or even ivory covered wood, for the sharps and flats. This eliminates the glare of reflected light that causes eye-strain. Manufacturers of typewriters long ago discontinued making white, shiny keys for this reason, and I think organbuilders should do likewise. The keys offer varying degrees of resistance to the fingers. Old organs of ample proportions require the development of new strength in the finger muscles, even with manuals uncoupled. Any enthusiastic effort to start right in on a fast piece with all stops out and manuals coupled is likely to come to grief after only a few measures. It is seldom really necessary to couple the manuals, however, and I found it possible to adjust my touch to the key resistance of one uncoupled division in a relatively short period of practicing. A greater difficulty, it seems to me, is the deep and occasionally uneven dip encountered in some old organs that are in need of adjustment. Where the old instruments have been restored and nicely adjusted the "feel" of the keys under my fingers was delightful. The sensation of overcoming the key resistance and pressing it through its breaking point, and the knowledge that in so doing one himself is actually doing the work of opening the valve that allows the pipe to speak, is eminently satisfying in a way that is difficult to describe.

The modern development of tracker action is superb. Key resistance of uncoupled manuals is light enough for anyone, and even coupled manuals are lighter than an uncoupled manual in old organs. In the restoration of some old organs the action

has in some cases been improved by redesigning some components in the modern way. But the actual construction of the windchest, and the wind pressure itself, affect the key touch. Large organs with many stops on a single chest must have larger pallet-valves, hence more wind resistance must be overcome to open them. Narrow note channels, with long narrow pallets, afford light key touch but sometimes cause unsteadiness of the wind in full playing. Special devices for overcoming this unsteadiness have been perfected. They make light action possible even in large organs. These new inventions are in some instances so effective that no tremolo is possible; the wind regulator cancels out each shake.

Perhaps the most frightening thing about tracker action consoles, both old and new, is the large stop knobs, which move in and out through a distance of from three to six inches. The mechanical advantage of having them move so far is a real one, because of the additional leverage it affords in moving the slider. In damp weather, when sliders tend to stick, little effort is required to move the knobs in and out, which is a decided advantage when manipulating those far out to the side (sometimes as far as 33 inches beyond the keyboard) or up high (well above the organist's head in some old organs). Sub and super couplers are not possible with tracker action. Moreover, most of the modern instruments, and all of the old ones, are entirely without registration aids of any sort whatever! The dancing stop knobs and kaleidescopic registration that have become familiar in some parts of the world, are clearly impossible on any of the organs under consideration in this study. To many readers this limitation may seem to be an insuperable objection; they are perhaps accustomed to changing stops fairly frequently during the performance of most pieces, employing couplers, division and general combinations. The answer to this objection is to be found in the characteristics and disposition of the tonal resources of the instruments, which are even more different from our own than the consoles, already touched upon. The relationships between the different manual divisions, and between the stops within each division, are such that registration aids are not necessary. On the average, many fewer stop knobs need to be moved during the performance of any music than is usual on our organs, and many more pieces can be played through without any changes of registration, with entire satisfaction.

In the first place each division is a complete organ, with a full range of color and intensity. Full organ is available on the main organ without coupling. A contrasting full organ, with a different sound, is usually available also on a secondary organ. The full pedal will be adequate for either, or for both in the infrequent final passages that require something more than full organ. Each division contains, also, its own set of colors effected by combinations within itself, so that couplers are not necessary for quiet and intermediate sounds, either.

The elimination of couplers from nearly all combinations means that as many different combinations as there are manuals can be set up before the beginning of a piece. They will be markedly different, consisting of altogether different sets of stops. A change of manual, therefore, may well suffice instead of changing stops.

Within each separate division the individual voices are so related to each other that the addition or subtraction of only one stop produces a much greater change in tone color than we are accustomed to. The fluework consists of two basic types of tone,

principals and flutes. The bolder, more penetrating sound of the principals is sometimes spoken of as "male," the broader, softer, and more rounded sound of the gedeckts "female." Within a division, there are usually single examples of each of these types at various pitches, all voiced and balanced to blend with their brothers or sisters in the same family, or division. The system provides for a maximum range of color by the use of one stop at each pitch, however many pitches are to be employed. Neither of the two foundation stops are permitted excessive predominance, so that the equality and perfect blending of representatives of other elements of the harmonic series ensure a distinct change of well-integrated color with each single stop change. One or two knobs can be easily moved by hand.

The scales and voicing treatment of all the stops in a division are planned and executed in relation to each other, so as to produce the maximum range of color and dynamics within the division, and the maximum of contrast with the other divisions. The abnormality of a fortissimo consisting altogether of foundation tone is impossible. Each stop change noticeably alters the harmonic structure, each division builds up from a quiet foundation to a brilliant full sound.

Let us examine several stoplists with especial reference to these underlying concepts of registration. First, the famous instrument in the Laurenskerk at Alkmaar that has been praised so highly in these pages, and which stands as a tremendous monument to the organbuilding art of the Netherlands from the seventeenth century down to the present day. Between 1639 and 1645 Galtus-Germer, Jacobus Galtus van Hagerbeer, and Levinus Eekmans built the first organ. In 1685 the Duyschots, Senior and Junior, worked on it. In 1723-25 Franz Caspar Schnitger restored, renewed, and enlarged it, and made of it a true representative of the organbuilding principles and practices of his father, Arp. In 1782, 1823, and 1854, it underwent repairs and alterations by Johann Strumphler, A. van Gruisen, and C. F. A. Naber, respectively. Between 1940 and 1949 it was restored to its pristine glory as a Schnitger by the great contemporary artist builder, D. A. Flentrop. Scales (diameter) of the C pipes are given in millimeters.

Hoofdwerk		C	c	c^1	c^2	c^3
16′ Prestant		242	137	74	48	31
8′ Prestant		140	84	48	30	17
6′ Quinta		90	53	31	18	10
4′ Octaaf		80	49	30	17	10
3′ Quint		60	34	20	11	6
2′ Octaaf		53	30	17	10	5
2′ Flachfluit	C-B stopped	48	40	27	16½	11
II Ruispijp	2′	50	30	18	10	5½
	1 1/3′	35	22	12	7½	4½
VI Mixtuur	1 1/3′	32	19	11	6½	4
II Tertiaan	4/5′	21	21	12	7	5
	2/3′	17	17	11	6	4
16′ Trompet		165				50
8′ Fiool di Gamba (reed)		50				40
4′ Trompet		95				40

Rugwerk					
8′ Prestant	140	80	46	26	17
8′ Holpijp	120	74	40	24	16
8′ Quintadeen	95	60	36	24	14
4′ Octaaf	80	42	23	14	8
4′ Roerfluit	79	48	31	22	16
3′ Spitsfluit	76	45	27	18	11
2′ Octaaf	42	24	13	8	5
2′ Woudfluit C-f♯ stopped	48	38	30	19	11
1 1/3′ Quintanus	36	22	13	7	4
III Cymbel, 1/5′	7	7	7	7	7
VI Mixtuur, 2/3′	17	10	6½	6½	6½
II Sesquialter, 1 1/3′	19	19	10	7	4½
4/5′	32	32	18	9	6
8′ Trompet	130				49
8′ Fagot	46				23
8′ Vox Humana	42				20
Boovenwerk					
8′ Prestant	145	82	47	31	19
8′ Baarpijp	160	97	69	24	22
8′ Roerfluit	110	72	41	26	18
8′ Quintadeen	105	60	34	22	15
4′ Octaaf	85	53	31	18	10
4′ Fluit	72	51	30	18	13½
3′ Spitsfluit	78	44	27	17	11
2′ Octaaf	53	30	17	10	5
2′ Gemshoorn	62	36	23	14	10
III Cymbel, 1/5′	7	7	7	7	7
IV Scherp, ½′	14	8½	5	5	5
II Sesquialter, 1 1/3′	32	32	18	9	6
4/5′	19	19	10	7	4½
8′ Trompet	130				42
8′ Hobo	80				30
8′ Vox Humana	50				25
Pedaal	C	c^1			
16′ Prestant	270	145			
8′ Octaaf	145	52			
10 2/3′ Roerfluit	155	58			
5 1/3′ Quint	100	35			
4′ Octaaf	82	32			
2′ Nachthoorn	40	17			
VI Mixtuur, 1 1/3′	28				
III Ruispijp, 2 2/3′	52				
16′ Bazuin	180	100			
8′ Trompet	132	72			
4′ Trompet	105	55			
2′ Trompet	52	35			

The chorus reeds blend with but do not dominate the flue ensembles. This stop-list clearly shows the diversity of stops available at different pitches for altering the color of the foundations, of which this organ possesses a rich variety. It will be seen that although the Great is almost entirely a "male" ensemble, the other divisions each have both types of tone at each pitch, up to and including the seventeenth and nineteenth. The presence of so many 8′ stops, however, is primarily for color, not loudness, as the finest sounding flue ensembles are based upon one foundation, either wide or narrow. These full combinations do not necessarily include all the stops. Most usually tierces and flutes are omitted, although their special qualities may be preferred for some passages.

The differences between the divisions, all of which are exceptionally complete, may be seen in the presence of 16′ foundations on the Great, with only 8′ foundations elsewhere, and the difference in pitch of the three chorus mixtures (Mixtuur on Great and Positiv, Scherp on Oberwerk). Another important difference is in the scaling of each division. Disregarding the diameters of the lowest pipes in the principals of each division, which are exposed in the case so that appearance was a determining factor, it will be seen that within each division the principals are of the same scale, that the Positiv scales are smaller than those of the Great, and that the largest scales of all are in the Oberwerk. This, together with the presence in the Oberwerk of four 8′ flues and three 8′reeds, suggests a kind of resemblance to the Solo organ of more recent times, and corroborates the theory that the Oberwerk division came into north European organbuilding from Italy, where strong foundation tone was preferred. It should be remembered that the later Oberwerk organs of Gottfried Silbermann, with their "sharp, penetrating scales" were intended to replace the Rückpositiv organ, which was abandoned by Silbermann.

The Laurenskerk is very large, and this fact undoubtedly suggested the inclusion of an Oberwerk, instead of the more usual Brustwerk. It also means that the couplers of this organ are used more than would be the case elsewhere. However, Mr. Flentrop's ingenious care has resulted in such a light action that this is no hardship. When Piet Kee, organist of the church and three times winner of the International Improvisation Contest of Haarlem, played the C major Prelude and Fugue (9/8) for us, he asked Hennie Schouten to add a manual coupler for him at a certain measure near the end; it would have been impossible for him to do it himself.

An example of Mr. Flentrop's recent new work is of special interest because its disposition is compressed, and includes just a few essentials, which nevertheless enable it to achieve much the same effect in a small church. Of modern design (The "church of a thousand windows") the Kruiskerk in Amstelveen offers good acoustics and an excellent position for the organ in the west gallery. Its resources, and scales, are as follows:

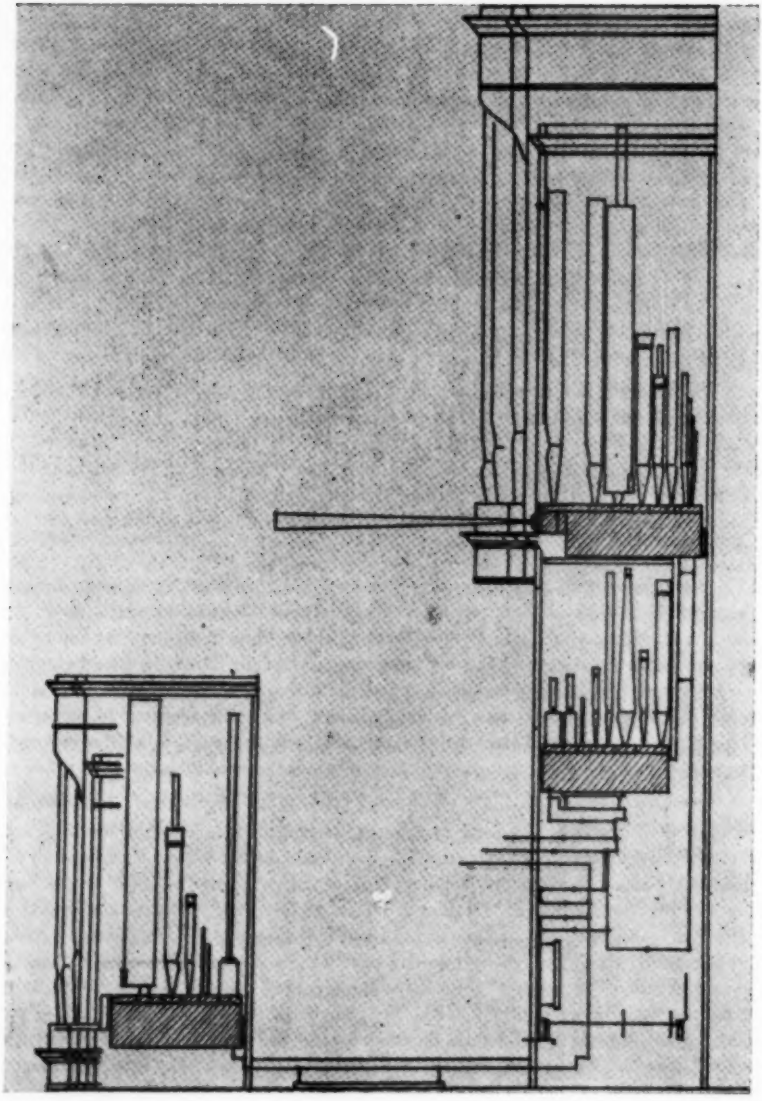
Hoofdwerk	C	c	c^1	c^2	c^3
8′ Prestant	145	84	48	27	17
8′ Roerfluit	130	85	53	36	22
4′ Octaaf	81	46	29	18	11
3′ Quint	63	40	26	17	11
2′ Vakfluit	52	34	22	16	10
IV-VI Mixtuur, 1 1/3′	32	19	11	7	5
8′ Trompet	110				48

Boorstpositiv						
8′ Holpijp		96	62	44	28	19
4′ Prestant		78	48	28	16	9½
4′ Roerfluit		72	48	33	22	14
2′ Octaaf		44	27	18	11	7
1½′ Quint		33	20	12	8	6
IV-V Scherp,	1′	25	15	10	6	4½
8′ Regaal		36	30	25	21	17½
Pedaal						
16′ Prestant		220	142	88		
8′ Octaaf		148	85	48		
4′ Octaaf		81	46	26		
2′ Fluit		60	40	27		
2′ Mixtuur		44	27	16		
16′ Bazuin		160	120	90		

The differentiation between divisions is here achieved by the presence of 8′ and 4′ principals in the Great with 4′ and 2′ principals in the Positiv, in addition to the smaller scales of the latter, and the different pitch of the two manual mixtures. It may be something of a surprise to see only 16′, 8′, and 4′ principals in the Pedal, but the 16′ Prestant is not as aggressive as some examples, and although warmer and brighter than any Soubasse or Bourdon, it offers a satisfactory bass for flutes as well as principals.

The measurements also show Mr. Flentrop's modern method of scaling, whereby the principal pipes of each successively higher element of the harmonic series (8′, 4′, 2′) are a little smaller than those of their lower neighbors throughout the bass and tenor octaves, the upper elements becoming larger scaled than the foundations in the treble. This prevents their dominating the foundations in the lower range, where individual ranks can be easily heard separately, and enables them to broaden out in the upper octaves, so that they reinforce the fundamental. Flute ranks above unison are each progressively larger scaled than their flute foundations through the entire gamut.

The separate indentity of each division is aided by the method of installation followed by Baroque builders and now widely adopted by contemporary leaders. Each division is enclosed in a case open only on the side toward which the tone is to be projected. Notwithstanding the fact that this opening is usually occupied by the bass pipes of the lower principals, these cases do act as resonance chambers and project a tone that is more perfectly integrated (as when foundations and mutations or mixtures are combined) than that coming from completely exposed pipes. Each division is given its own location. The Positiv is usually at the organist's back so that he sits between it and the main organ, which he faces. The Hauptwerk (Great) is in the center of the main organ, with the Pedal divided on either side. If there is a Brustwerk organ, it has a small case under the Great, and an Oberwerk is placed above the Great. No division is placed in front of another, and the space occupied by the entire instrument is shallow, presenting a broad front. Most usually it is backed by a solid rear or side wall, which is an invaluable factor in projecting the tone to distant parts of the building, undisturbed by strong following echos.



MARCUSSEN ORGAN AT JAGERSBORG CHURCH, COPENHAGEN, SHOWING TYPICAL PLACEMENT OF DIVISIONS AND PIPES.

The accompanying diagram of the organ at Jägersborg Church in Copenhagen shows a typical installation. This organ is an example of the recent work of Marcussen, the Danish organbuilding company that has risen to world prominence under the leadership of Messrs. Zachariassen and Gerhardt-Andersen. The stops are listed below in the order in which they appear on the chests from left to right, which is a typical placement. The Pedal pipes and chests do not show in the drawing, but they are placed on either side of the Great, as usual.

Huvudverk
- 8′ Trumpet (horizontal pipes, above organist's head)
- 8′ Principal (front)
- 4′ Oktava
- 8′ Rörflöjt
- 4′ Gedacktflöjt
- 2 2/3′ Rörkvint
- 2′ Oktava
- IV Mixtur

Ryggpositiv
- 4′ Principal (front)
- 8′ Gedackt
- 4′ Rörflöjt
- 2′ Kvintadena
- II Scharf
- 8′ Krumhorn

Bröstverk
- 16′ Rankett
- I Cymbel
- 1 1/3′ Nasat
- 2′ Principal
- 4′ Spetsgedackt
- 8′ Gedackt (two topboards)

Pedal
- 16′ Subbas
- 8′ Principal
- 8′ Gedackt
- 16′ Fagott
- 4′ Regal

The stoplist shows how the divisions are made to sound different from each other by the pitch of their principals. In Scandanavian countries principals at 8′, 4′, and 2′ pitch on the Great are considered essential, but each of the divisions has its lowest principal at a different pitch.

From the diagram it may be seen that the enclosing cases are of varying sizes in accordance with the length of the lowest pitch principal in each, the Bröstverk case being just more than two feet high. (Bass pipes of the 8′ Gedackt are tubed off outside the case.) This is said to influence the tone favorably, and also to strengthen the special identity of each.

One of the virtues claimed for these Baroque and modern organs is the sense of intimate contact with the source of tone enjoyed by the organist. This is true of the smaller instruments, where the pipes are all quite close. But in some of the large organs based upon a 16′ Principal in the Hauptwerk, and containing both Brustwerk and Oberwerk, the pipes of the Hauptwerk, and even more those of the Oberwerk above it, are not actually very close, and the Rückpositiv case is sometimes constructed of 1¼″ mahogany, so that the organist hears it only indircetly. The Brustwerk, which by tradition is the most delicately voiced and refined of all the divisions, is nearest and usually sounds disproportionately loud at the console. In many of the largest churches of northern Europe there is no central heating (which, incidentally, accounts in large measure for the remarkable longevity of the Baroque organs), so that special enclosures are sometimes built over and around the console to enable the organist to retain the warmth provided by small electric heaters. Even with the doors open in the summer, these enclosures seem to remove the sound still further away. Only the key action gives a feeling of personal control.

FLENTROP ORGAN IN KRUISKERK, AMSTELVEEN. DOORS ARE CLOSED IN FRONT OF BOORSTPOSITIV, ABOVE KEYBOARDS AND BELOW HOOFDWERK IN CENTER. PEDAL ON EITHER SIDE.

Now we come to the real heart of the matter, that part of the study which is the most intricate and difficult to discuss, namely, the voicing of the pipes. It has already been remarked that the method of winding the pipes influences their tone. A familiar phenomenon in older American organs is the rapid speech of bass pipes standing in the facade and tubed off from the chest. This is because any body of enclosed air makes an almost instantaneous adjustment to any change of pressure by distributing that pressure evenly throughout the entire enclosure. When the valve opens, the slightly compressed air of the windchest expands against the air in the tube at atmospheric pressure, which immediately delivers the increased pressure at the foot of the pipe. The first air to enter the pipe and pass through the windway is the expanding air which has been stationary in the tube. Although it will be followed immediately by the stream of moving air coming from the windchest, the beginning of the tone, the attack, is effected by expanding air. This is beneficial to promptness, and a different kind of voicing is possible when speech is initiated in this way. The note channels of the slider chests, into which the pallet valves admit the chest wind on its way to the pipe feet, provide just such an expanding cushion of air. It is therefore possible to leave the toe-holes wide open, or nearly so, and to allow this cushion to expand right up to the windway and gently burst through it, to impinge upon the upper lips without restraint. In other chest action systems, such as our electro-pneumatic chests, the pipe feet are planted in the top board within a few inches of the main body of chest wind. The wind is usually at high pressure, and cannot be permitted to suddenly strike against the windway unpreceded by an expanding cushion of air, because of the turbulence that it would set up. The toe-holes must be restricted, and the attack must be controlled in other ways. But given low pressure wind, preceded into the pipe by an expanding cushion of air, the first passage of wind through the windway will produce a little puff, a little bursting sound, that is like a consonant preceding a vowel. The tone follows quickly enough; the consonant is of very brief duration. The sustained tone itself gains as a result of this style of voicing. Everywhere we found beautiful flutes and beautiful principals, even though the scales and voicing treatment varied widely from country to country and from builder to builder. In spite of these innumerable variations the following general characteristics prevailed in the fluework voicing of both old and new organs:

1. Everything is done to give an interesting harmonic development to each pipe, whether it be flute or principal, but the entire harmonic structure is very perfectly integrated, so that each overtone is imbedded in the unified sound, with no "edginess" or "fuzziness" to detract from the gentle warmth of the tone. The brightness of the highest principals is not string-like, or strident. The highest mixtures are easy to listen to.

2. Somewhat less tone is produced by each pipe than is usual here. Windways are very narrow, with no nicks, or at most a few scratches on the face of the languids, which are often thicker, with more nearly vertical faces, so that they give the appearance of being higher.

3. Each stop is well regulated and carefully voiced throughout the gamut, so that it is pleasing and interesting in every register. This fact, together with the favorable placement and resonating chambers, makes the use of single stops alone, rather than

in combination, more effective, to the enrichment of the tonal pallet. Nowhere did we encounter an example of a stop that was unpleasant sounding alone but useful in combination with others because of its effect on them. This concept, in which some of our builders profess to believe, seems to me to be uneconomical and aesthetically fallacious. Everywhere the organs showed evidence of the utmost care in making every stop as beautiful and as versatile as possible.

4. Instantaneous speech and lively articulation make the music "come' alive.' Detached touches, and varying degrees of nonlegato, are less frequently required.

5. While the pitch of every rank is clear throughout the compass, different pitches blend with each other very well. (Note channels and resonance chambers help.)

The reeds are individually colorful, and the chorus reeds blend with the flue chorus. There is great variety among them, but most of them have short length resonators (Trompete en chamade, and Krummhorn, half-length, Rankett and Regal sixteenth-, eighth-, quarter- and half-length, in various registers) and produce some noise (i.e., vibrations that are not part of the harmonic series) along with the tone. Many of them have a quality of concentrated intensity, but little richness. The poorest of them are reminiscent of Donald Duck.

Much has been written and said about two prominent features of these organs. The "Chiff," or attack noises are thought to be the one most important advantage. Actually, these transient sounds vary widely in the work of each builder and in the different instruments. In some, the initial consonant is like the sound of the letters pf, in others something of a voiced consonant like b and d. In still others a whole cluster of musical tones, each one obscuring the other, seem to be present in the little burst of sound that launches the tone. The most extreme type is the attack which seems to touch lightly on the fifteenth, sometimes the seventeenth, above the fundamental, for a brief instant before delivering the full tone. Running a scale on one of these stops produces a second scale, two octaves higher, at the beginning of each new note. A small organ by Hemmersam of Copenhagen, in which all the pipes were wood, was voiced this way. The organs of the distinguished Frobenius brothers, of Copenhagen, are voiced this way. This method of voicing makes it possible to control the speech so well that the attack is uniform from note to note. Many of the other organs exhibit gross irregularities of speech, from note to note. Some European organists say that they enjoy these irregularities, that, for them, it adds interest to the music, to have one note different from another. Here, again, my own taste has not yet developed as far as that of my friends abroad.

However, I do want to report that the chiff itself, if brought under reasonable control, is a very delightful effect that enlivens organ music in a way that is sorely needed. It may sound like objectionable noise when individual notes of separate stops are tried and listened to critically, but it seems to help blend the tone of several stops together when played in combination, and in the performance of music the attention is on the notes, the lines of melody and polyphony, so that we do not listen to these sounds. But their effect is there, and it is beneficial. In the performance of any rapid energetic music this consonantal articulation is ideal. In a five-voiced fugue, such as the E flat, the tightly woven web of polyphony tends to obscure inner parts, but this little noise makes each new note cut through distinctly, even when others are being sustained. Its effect is something like that of the plucking sound of the harpsichord, but much weaker.

In the large churches of Holland, the attack sounds could scarcely be heard. At any distance from the pipes the sustained tone seemed to carry better and the reverberation confirmed it. But in certain smaller churches, such as the Swedish Church in Copenhagen, where the organ is on a side gallery close to everyone, and the acoustics more nearly resemble those of many American churches, an unusually restrained Marcussen organ, with comparatively refined initial transients, seemed to speak quite aggressively.

Controlling the attack by varying the speed of key descent has been much advertised as an advantage of direct mechanical action. In my opinion, some of our enthusiasts have overrated this feature. Actually, it is not possible to play fast in any way but one, with all the chiff. A passage such as the right hand part of "Nun freut euch," all rapid sixteenth-notes, cannot be played "with" and "without" the consonantal accent, only "with." But very slow notes, such as the left hand part of "Nun Komm der Heiden Heiland" (Great Eighteen) can be played in such a way that the chiff is minimized. By touching the key ahead of time and pressing on it just enough to overcome its resistance, and no more, it can be made to descend to the bottom of the dip, beyond the breaking point of wind resistance, slowly. The channel fills with chest wind a little more slowly, and the tone begins more gently. It is remarkable that pipes will instantly speak a true tone on something less than their full wind supply, but that is a part of the voicing method. In the old days pipes were all voiced in position in the church to judge their effect there, and the voicers used to test their work by blowing the pipes with their mouths to see if they would yield a true tone on a gradually increasing wind pressure.

There is an undeniable advantage in the fine control over release that mechanical action offers. The tone stops when the key rises all the way up, not before. An organist feels a difference in both attack and release, his playing becomes more rhythmic.

For whatever they may be worth, I shall offer some general observations. The excellence of these organs, both old and new, seems to me to be the result of an entire complex of factors, no one of which can achieve its maximum effect without the interaction of all or most of the others. Close contact between the organist and the tone producing elements, in addition to the real advantage of fine control over attack and release, offers an even greater psychological advantage. It makes the player feel that he is making the music himself. Anyone who has enjoyed this sense of making the music himself will never again take any satisfaction in sitting at a telegraph organ and tapping out messages that are received and acted upon by a gigantic machine, fifty feet away, around a corner, or in any distant place. From the listener's standpoint, favorable acoustics and position combine with the voicing that is associated with the slider and pallet windchest to make the sounds lively, interesting, and so perfect for organ music that the notes themselves (the music) command attention and are easy to follow.

It is remarkable, in this connection, that the human ear seems to enjoy listening to sounds that are slightly obscured, as by reverberation, or the presence of irrelevant noise in the tone (both at the attack and afterwards), and in other instances by celestes. The selection and recognition of significant elements in what we hear, is a basic part of our enjoyment. An absolutely pure tone, as is produced by a single draw bar on an electronic instrument, is uninteresting. We prefer interesting complexity. The speech noises of these old organs, like acoustical reverberation, heighten our en-

joyment when we have become accustomed to them.

The first essential for organbuilding of this kind is a good acoustical environment and good placement. We must work toward these objectives. Several European builders refuse contracts for organs if they are to be badly placed or in adverse acoustical surroundings. Our builders should adopt the same attitude. This might impress church committees and architects favorably, as good conditions of installation ensure the musical adequacy of a much smaller number of stops.

In fact, the mercenary philosophy of magnitude and profusion has been proven to be incompatible with the art of music. It is puerile. The explanation of their work which the Frobenius brothers of Copenhagen presented to us when we listened to and played their instruments seems to me to contain a valid philosophy for organbuilding.

> What is the explanation of this turning back to the original and long abandoned principle of organ building? Is it a kind of escapism from the current technical confusion, or is it a result of profound historical analysis? It is neither the first one nor the other, to tell the truth.
>
> The answer is simply that the mechanical organ with all its limitations, compared to the pneumatic and the electric organs, holds one advantage, and this advantage is to be found on the artistic level. We are thinking of a quotation from Igor Stravinsky's *Poetique musicales*: "The more pressure one submits to the more one is released from the chains which restrain the spirit.
>
> The mechanical organ with sliderchests puts much restraint on the organ builder: The number of stops on each manual is restricted, the distance between the different windchests is limited, the wind pressure has to be kept down, et cetera.
>
> The low wind pressure brings forth the old method of voicing. The pipes are voiced with "full wind supply" (big holes in the pipe feet) and without nicks. Through this method the pipes will produce important harmonics and non-harmonics, and the attack is precise and characteristic. But it should be noticed that the pipes without nicks require an extremely sensitive way of voicing. The voicer has to learn patiently the very restricted conditions of intonation required by this kind of pipe.
>
> All these difficulties forced on the organ builder mean that the organ will turn out successfully, only when the design of the front, the specifications of stops, and the voicing form a synthesis. If you ask why we build mechanical instruments, the answer — in shortest form — will be, that this method gives a chance to achieve something artistic. Consequently we gladly take the trouble.

In many creative fields quality is often the direct result of limitations, whether of size, materials, purpose, function, or other factors. Nothing that is completely unlimited can succeed in any art. By the general adoption of a new aesthetic it may become possible for organists to cease being operators, and for organbuilders to cease being manufacturers, and for both to become artists.

★ ★ ★ A JOYFUL NOISE ★ ★ ★

HOMER G. MOWE

TERMINOLOGY IN THE FIELD OF SINGING

IN discussing Terminology, certain basic facts about terms ought to be considered first. One is that language, as a whole, was not invented. It has grown out of our need for expression and as our needs change we must make changes in our language. Another is that we constantly discard words, make up new words, and alter the meaning of words that have been used for a considerable time. For example, the word "nice" offers a good illustration of the last category. Today we mean "pleasant" or "agreeable" when we say "John is a nice person." At an earlier time "nice" meant "fine," as used in "a nice distinction." But the word has a longer history than that, because in earlier times it meant "silly" or "foolish." We are told also that this was not even the earliest meaning of the word, as before this period it meant "ignorant," so that when we said "John is nice," we meant "John is ignorant." And the most ancient form that can be traced meant the negative of "to cut" or "to separate," that is, "not cutting." Certainly some of the words used in the early days of voice teaching, and still employed, have undergone similar changes in meaning.

Terminology is defined as "the science of technical terms," or as "a theory regarding the proper use of terms." In dealing with these terms we touch on a subject called Semantics, which is defined by Gilbert Murray as "a discipline which deals with certain relations between expressions of a language and the objects referred to by these expressions."

Writers on Semantics point out a number of interesting facts about terms. One is that the language we use falls into three general categories,— science, aesthetics, and technology. Scientific terms cover those things that can be handled, that are facts; for example, the larynx, the diaphgram, the vocal cords. The things to which these terms refer are facts and can be scientifically proved or disproved. Aesthetic discourse presents for direct inspection and experience the realm of values, both positive and negative. It is a basic doctrine of aestheticians that art itself is a specialized form of language. When we sing a tone for students or illustrate our thought by means of bodily movement, we are using a form of aesthetic discourse. Technological discourse is for the purpose of inducing a mode of action. A command is implied. It does not report a fact or present a value. It has for its basic purpose the controlling of behavior, and says, basically, "Do it this way." The three forms of discourse may overlap.

Teachers of singing employ all three forms of discourse freely. It is important, however, that they keep in mind which form they are using and what the power and limitations of that form are. For example, a description of the vocal apparatus and its functioning, which is scientific discourse, will not necessarily stimulate the bodily activity necessary for the act of singing. Singing a phrase for a student, which can be called aesthetic discourse, will not necessarily assure the proper vocal result either from the standpoint of scientific form or technological response. Exhortations and emotional stimulation to "do this" or "do that," through a technological approach, may result in a powerful vocal response on the part of the student, but may or may not

produce the desired tonal result. Teachers should understand the properties of each form and keep their approach flexible so that they can utilize that form or those forms of discourse that will be most effective in all the varying student situations they encounter.

Words used in teaching and in singing also fall into two basic divisions, those which are Absolute and those which are Relational. Absolute words are labels on objects or things that can be perceived by the senses. Relative words refer to things that can only be conceived, that cannot be perceived by the senses. For example, the much used phrase "good tone." "Tone" is an Absolute word because we can measure the thing to which the word "tone" refers. "Good" is a Relational word and has no fixed meaning, no absolute meaning.

Futhermore, in discussing singing, we must clearly differentiate between statements which are matters of Fact and those which are matters of Opinion. Attendance at any song recital will illustrate the difference between these two classes of statements. There will be no question as to the color of the dress the soprano wore, because this is a Fact; but comments on her voice may vary from high praise to total condemnation, because these comments are matters of Opinion.

An examination of some of the terms commonly used in singing in the light of these thoughts by writers on Semantics may be of interest. First, let us consider the term "falsetto." I believe that there is, generally, an agreement on the sound to which this term is applied. Yet such agreement is not always present. When John McCormack was at the peak of his great career, he could produce a beautiful pianissimo tone in his high range, and was so enraged because some of his critics insisted on calling these tones "falsetto" that he wrote a vigorous letter to the papers insisting that the tones in question were "legitimate" ones. He said that he had spent years of time and practice to acquire the skill necessary to produce them and he would not have them called "falsetto," which was a sound any singer could produce with no training or study whatever.

In reading books on singing it would seem that some writers use the term "falsetto" as synonymous with the term "head voice." Probably the latter term has undergone change in meaning since it was first employed. The high speed camera, taking 4000 pictures a second, developed by the Bell Laboratories some years ago, seemed to show that in production of the falsetto tone the vocal cords were not approximated for their full length, but showed a "pocket" at some point, sometimes two "pockets." If this is the condition for the production of falsetto tones, then it differs from the condition for the production of true "head voice," by which term is meant a legitimate tone in the upper range which seems to focus in the region of the head and in the production of which the cords are in full approximation. If this is true, the terms should not be confused and should be understood as referring to different things.

Another term commonly employed in teaching is "relaxation." This, as generally used, is a Relative word, not an Absolute one. The thing to which it refers is not a fixed object. Medical men say that only when we are dead is there no tension in muscles. Even when we are asleep we are not relaxed in their specific use of the word. In singing, as in any act requiring physical activity, we need an adequate tension in the proper muscles. This, of course, is not "relaxation." The majority of students are already too greatly relaxed in many muscular areas whose activity is essential for the production of desirable sounds, while at the same time, they overtense and overwork

other areas which, by habit, they depend on for phonation. Most teachers use the word "relaxation" in its true, relative sense, but each should be sure that he has not given an Absolute value to the term, else he is working from an unscientific basis which in the long run will limit the results he can obtain. The true description of the muscular condition needed in singing would probably contain the term "tension," but here we meet an example of the fate that overtakes words, for "tension" has been so generally understood to mean "overtension" or "tightness" that one hesitates to employ it.

If we listen carefully to present-day singers we will hear a great variation in what is generally termed "vibrato." In the proposed Standard Acoustical Terminology (Acoustical Society of America in cooperation with the Institute of Radio Engineers, Inc.), "vibrato" is defined as "a musical embellishment which depends upon a periodic change of pitch, loudness, timbre, or all three." Professor Seashore's studies on The Vibrato, and those of others, show that every vocal artist has a vibrato, and it is generally accepted as a desirable element in the tone. We do distinguish, however, between vibratos which we call "too fast" or "too slow." The term "vibrato" is an Absolute one as it points to something that can be directly measured and handled by instruments. The qualifying terms "too fast" and "too slow" are Relational ones and are not Matters of Fact but only Matters of Opinion. Our ears enable us to evaluate the sound aesthetically but not scientifically. If everyone agreed that one certain vibrato rate was the perfect one, then a scientfic test would be possible in judging the singer's vibrato, but it can hardly be assumed that such an agreement does exist. The truth is that each listener "likes" one type of vibrato better than the other types. In a way, the variation in the vibrato of singers follows the "fashion" of the time, because singers, consciously or unconsciously, try to please their audiences, and a vocal effect that has drawn the most applause tends to be repeated and, unfortunately, often amplified beyond the bounds of good taste or good judgment.

The term that is closely associated, and often confused, with "vibrato" is "tremolo." The things to which these terms refer have some items of similarity, a pitch variation being the most evident. Teachers agree that a "tremolo" is undesirable, although in popular song singing it is desired by masses of listeners, if we can judge by the sale and use of "pop" song recordings. In some cases the difference between a "wide" vibrato and a "slight tremolo" might be difficult to distinguish because the pitch variation would be similar in degree. Yet if we approach the matter from the standpoint of tone production, that is, the "form" used in producing the sounds, we might find a distinguishing factor. A tremolo generally indicates a defect in tone production, in other words, incorrect form, while even a wide vibrato might point only to an overemotionalized variation of what is, basically, good form. It must be admitted that in such comparisons, because of the aesthetic element involved, dependence on the ears of the listeners might show a considerable divergence of opinion.

Thre is a great mass of terms used to describe tone and singing that have been borrowed from other fields. We say that a tone is "warm" or "cold," referring to our sense of feeling; "brilliant," "dark," or "lacking in color," referring to our sense of sight; "sweet" or sometimes, "sour," referring to our sense of taste; "shrill," "strident," or "piercing," referring to our sense of hearing. We seem to avoid terms that refer to our sense of smell, at least publicly, although it would be quite as reasonable to talk about "tone odor" as it is to talk of "tone color." All such terms are, of course, Relative ones and statements of Opinion. We, ourselves, understand what we

mean when we employ these borrowed terms, but we must admit that colors, tastes, etc., cannot exactly depict tones. If we say that a soprano sings "flat" or "sharp," that is a matter of Fact, either true or false, and can be directly investigated. If we say that her tones are "shrill" or "not pleasing," we are only expressing an Opinion. Someone must have thought them pleasing or else she wouldn't be singing. The use of the terms is justified, however, if they serve to convey, in some degree, the thought we have in mind.

A teacher might well ask, "What's the use of worrying about Terminology? As long as I can make my students understand what I mean, what difference does it make what words I use?" There is some virtue in this stand, because it actually doesn't make much difference how we express our thoughts as long as we do convey our meaning to others. We have a right to use any words we please as long as we make ourselves understood. At the same time, if a teacher, through a better acquaintance with Terminology, can learn a better and quicker way of phrasing his ideas, it certainly will be valuable and useful knowledge.

In every lesson he gives, a teacher faces the necessity of conveying certain ideas to the student. The teacher has in mind a certain desired result or a procedure that will produce a certain result. This must be conveyed to the student. The teacher must use some form of discourse to achieve this transfer. The more effective the teacher's discourse, the quicker the student can grasp the thought and the faster the student can progress. Therefore it would seem that a continuing examination of the terms used in teaching, and a constant endeavor to improve them might well be a project for all teachers of singing.

In any case, it would seem that the profession ought to keep trying to clarify the meaning of the words used in teaching. If the teachers can agree on this point, and make their terms and definitions exact for themselves, then in time these terms and definitions will be adopted by others and a clearer understanding of the teacher's aims, objectives, and procedures will prevail. Meanwhile, the somewhat vague and indefinite terms now in use can be justified in some degree. A statement by Gilbert Miller is most apropos. He said, "In teaching we do not always speak facts. We point to something beyond the words themselves, calling the student's attention not to a fact but to a mystery."

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THOMAS P. FROST

CONTINUING our previous discussion of recording, we come to a much misunderstood subject: microphones. Whether you make recordings, perform for them, or just listen, you may find some knowledge of microphone technique valuable. The microphone is the "ear" of the recorder. What it hears, and how faithfully it converts the sound into electrical impulses, determines to a large degree the quality of the final recording.

The placement of the microphone is of the utmost importance. Much has been written on the subject, but essentially it is a matter of common sense. A "close" microphone tends to pick up detail, while a distant one emphasizes reverberation. Consequently, it may be desirable to keep the microphone rather close when recording in a resonant hall, or conversely, rather distant in a dead room. The once-prevalent practice of trying to blot out all reverberation for recording is now happily past. This does not mean, however, that reverberation is indiscriminately sanctioned; it is necessary to admit it in moderate amounts to optimize realism without destroying definition.

In determining microphone placement, it must be borne in mind that the "mike" picks up nearby sounds more strongly than distant ones. Consequently, to record large groups the "mike" must be far enough from the performers so that the distance to each is approximately the same. A location above and in front of the performers is usually advantageous. Elevating the "mike" tends to give those toward the rear a better chance to be heard; and moving it away from the group gives performers on either end a better balance in relation to those in the center.

A most satisfactory procedure for supporting the "mike" is to suspend it by a heavy cord or fishline. This effectively isolates it from vibrations in the floor or walls which could otherwise be a troublesome source of distortion; and there is no simpler support than a cord.

It is rarely necessary to use more than one microphone. For recording a soloist with chorus, for instance, a very satisfactory balance can usually be obtained with one microphone at a suitable distance. Multiple microphones require very careful handling for good results; they increase the cost and complexity of the recording setup, usually out of all proportion to any advantage they give; and they can actually make the results worse instead of better. A person listens, after all, from a single place. There is no reason why a recorder cannot do the same. We have known of professionals who string up a formidable display of microphones, and then connect only one.

Microphones have a disconcerting way of hearing and giving prominence to sounds which one might scarcely notice. In recording both piano and organ, the action noise is very likely to acquire undue prominence, unless the microphone is kept rather distant. If by mischance the performer sits on a squeaky bench, the "mike" will give a detailed account of the fact!

With all the attention which has been paid of late to European organs, it should be noted that the domestic scene is also deserving of interest. With this in mind, we turn now to recordings made on representative contemporary American instruments.

Music for the Organ — Volume II L. VIERNE, "Scherzo," Second Symphonie. M. REGER, "Weihnachten 1914." C. M. WIDOR, "Andante," Symphonie Gothique. EDWARD LINZEL, organ. J. F. DANDRIEU, "Dialogue and Musette." S. KARG-ELERT, "O Gott, du frommer Gott." J. PACHELBEL, "Ach, was soll Ich Sünder Machen?" H. SCHROEDER, "Schönster Herr Jesu." J. S. Bach, "Prelude and Fugue in C major." ERNEST WHITE, organ. M. P. MOLLER, 12" LP.

In this record, with the avowed purpose of demonstrating instruments large and small, two artists associated with the Church of St. Mary the Virgin in New York make a joint appearance. Playing the new 40-voice organ in the Masonic Washington Memorial Shrine, Alexandria, Virginia, Linzel presents three late romantic works. On the obverse his mentor, Ernest White, plays a six-rank "Double Artiste" in a program spanning three centuries.

Linzel's Vierne is projected with the appropriate delicacy of touch; a tinkle as of a light 1′ runs throughout the *perpetuum mobile*, interrupted only by a brief pause in celestes near the close. The tension of Reger's impressive crescendo highlights the impact of the interweaving Christmas melodies. The buildup seems to be arranged with reeds only at 16′ in the pedal, so that the massive *tutti* is carried on an exceedingly slender bass. Although the *piano* statements of the chorales tend to be choppy, and the climax without ritard lacks the intensity appropriate to this music, the performance is effectively registrated and the instrument proves adequate to the demands of the music.

The Widor displays a flute solo played on a voice with very amply proportioned trebles. Linzel uses tasteful restraint in allowing the changes of tessitura to create dynamic changes, without resorting to the artifice of waggling shutters. This rates as the most poised of his performances. The close microphone gives excellent definition, creating the effect of intimacy rather than spaciousness; more reverberation would enhance the effect.

On the reverse side, White proves what he can do with limited materials. By dramatic registration and distinctive touch he makes colorful music on a diminutive organ. The fiery reeds blaze with grand and majestic effects as Dandrieu opens the program. In the harmonically rich Karg-Elert the principal registration is a broad string and celeste, with a double echo appropriately accomplished by retiring the celeste, and closing the shutters. The Pachelbel Partita is engaging and skillfully varied, possibly the most significant contribution of the disc to the recorded literature. The haunting flute solo of Schroeder's appealing chorale setting is cunningly programmed in contrast to the Baroque works. White's Bach must be accounted a *tour de force*, reeds are drawn to substitute for the absent mixtures, with surprisingly good effect.

The record has many features of interest and excellent fidelity; and there should be no hurt feelings if it proves that the younger artist with a large instrument is not necessarily the equal of the past master on a small one. Nobody plays quite like White.

J. PACHELBEL, "Toccata in C Major," "Fugue in C Major," "Toccata in F Major;" Chorale Preludes: "Jesus Christus, unser Heiland," "Wie schön leuchtet der Morgenstern," "Warum betrübst du dich, mein Herz?," "Ein' feste Burg ist unser Gott." J. G. WALTHER. "Concerto del Sgr. Meck, appropriato all' Organo;" Chorale Preludes: "Ach schönster Jesu, mein Verlangen." "Aus meines Herzens Grunde," "Warum betrübst du dich, mein Herz?," "Allein Gott in der Höh sei Ehr'." LUTHER NOSS, organ. OVERTONE 8, 12" lp.

Here are two Baroque giants, in a recording which attains the high excellence of the previous Scheidt release by the same performer. The suitability of Yale's Battell Chapel organs to this repertoire, the significance of the music, and the very superior quality of the recording create a record of unusual merit.

The performances throughout possess a sympathetic assurance. The Pachelbel toccatas and fugue are played on the small two-manual Apse Organ, showing that they do not demand a large instrument or massive tone for effective realization. The rhythm here is gracefully flexible, particularly in the first toccata. The fugue is striking for its exuberant theme, dominated by a long succession of repeated notes, and for the extension of this, just before the close, into what must be the longest row of repeated notes in the literature!

The chorale preludes, gems too easily overlooked because of their modest proportions, are well chosen to show the variety of treatments used by Pachelbel. Like the previous works, they incline to harmonic and melodic simplicity. Noss has wisely elected to play them on the three-manual Transept Organ, an outstanding Holtkamp instrument. It is noteworthy that the version of "Wie schön leuchtet der Morgenstern" here given is rather at variance with that of Straube; and also that the present registration using 8′ registers for all voices seems earthbound to one accustomed to the charming effect of this prelude when played on 4′ alone.

The Walther selections are performed on the Transept Organ. The concerto is a literal and successful transcription of Meck's violin score. In the first and final movements, the rhythm has a sturdy, unflagging vigor. The structural alternation between *tutti* and *soli* is expounded upon a principal manual of full, incisive tone and a secondary division of lighter intensity. An attempt is made in the Adagio to wrest from the keys the plasticity of the violin, with no more success than might be expected.

The chorale preludes receive appropriately direct interpretations, with the melodies assigned to prominent and intriguing combinations. Comparison of these with the Pachelbel chorale preludes shows clearly their greater complexity. This music is all too seldom heard, although it is eminently suited for use in worship services today. (Walther's music offers many of the difficulties of J. S. Bach's, but his name has no halo.)

In addition to its other merits, this record has remarkably informative and lucid program notes. All in all, we have good reason to anticipate more outstanding records from Messrs. Overtone and Noss.

DONALD WILLING

ORGAN, CHOIR
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★ ★ ★ BUSMAN ★ ★ ★

IMPROVISED preludes have a debilitating effect on all that follows in some churches. In a Gothic, cathedralesque setting, with a high vaulted ceiling, a talented young organist began at about ten minutes before service time by sounding a single note on the flute celeste. Emanating from concealed recessed chambers and immediately encountering its own reverberation, the sound seemed to float in the air, moving in no determinable direction from no recognizable source. It was simply disseminated, like some faint perfume. After a while another note was added, then another, until a full chord was heard. Eventually this chord moved to another chord, quite correctly, and from then on one voice at a time would move to a new note, so that a series of consequent harmonies gradually developed. The progression unfolded so slowly that it was extremely difficult to maintain concentration on each chord until the next new note appeared. The series of sounds was completely innocent of any melodic, rhythmic, or contrapuntal interest, and was apparently intended to be one continuous, unending phrase.

This prelude was nothing more than sound effects, and it was utterly effeminate. Constant effeminacy is the curse of much organ music in churches, and is responsible, in part, for the low esteem in which organ music is held by much of the general public. It is quite foreign to our concept of the ideal function of the organ in church, and it is not at all consonant with our view of Christian religion.

A pleasant sensation, whether produced by the sound of an echolike voix celeste or any other means, is not the highest purpose of either pipe organs or church services. In fact, for people to sit together in a church and deliberately court a pleasant sensation, whether aided by the organist or anyone else, is indecent. This is more properly a private matter, and is not a legitimate part of public worship.

When the service began, a choir of boys and men ambled down a center aisle while the organist played a hymn. The reverberating heavy diapasons made it impossible to tell whether or not the boys were singing, although some were looking at their books and seemed to be occasionally moving their lips. Later, at the offertory, there were some passages of unaccompanied singing, in which the boys could be heard "oo"-ing their way through a long anthem. Their singing was so refined and emasculated that their musical competence came to little effect except in a very faint, touching pianissimo. It was all sound effects, contributing to a thick morass of sentimentality.

It is our confirmed belief that *music* possesses the power to uplift and inspire the human heart, and that this is its principal value to the Christian religion, as we understand it. Music, with melody, rhythm, counterpoint, movement, and activity can so charge the human spirit with vigor and energy that the great purposes and goals of Christianity can gain immeasurable momentum from it, Sunday after Sunday. The great music machine which is our special responsibility is the finest possible medium for that majestic music which best accomplishes this purpose.

While we all can recognize pieces with special qualities of inappropriateness (such as the Gigue Fugue, and other pieces with distinctly secular character or association), the great polyphonic compositions of Bach and other masters of the organ constitutes an ideal framework for a church service, which is esssentially a large-scale performance.

There might be exceptions in small churches or chapels, where a certain intimacy is inescapable and organo pleno might seem oppressive, but even then the deliberate cultivation of a pleasant sensation is low-grade entertainment, not worship.

In all of life, and all of art which is its reflection, masculinity and femininity are to be found in about equal proportions. A complete classical symphony includes vigorous, energetic allegros, as well as gently persuasive andantes. If we should emasculate Christian religion, we would take from it at least half of its validity and worth for the human race. This, in our opinion, is exactly what has happened at some times and places!

At another church, a luxurious suburban worship palace, we encountered the same and other faults. The rarely beautiful stained glass and carved wood therein, together with the softest seat cushions of any church in the United States, induce a feeling of well-being that must be experienced to be realized. Here, too, although one of our greatest organbuilders is installing a truly magnificent instrument that would permit ideal performances of great music, the organist drew the Salicional, et cetera, and gave us an eight-minute endless succession of chords, completely amorphous and inconclusive, for a prelude.

Moreover, in this service, the hymns were played with an unforgivable lack of consideration for the congregation, who valiantly persisted in their singing, notwithstanding their organist's flagrant disregard of their obvious requirements. He seemed determined to maintain a lively tempo, and in order to keep things moving, he abruptly cut short the last note of each line and started the new line a little ahead of time. He rushed on, rudely forcing the congregation to hurry and catch up with him. While it is permissable and desirable to shorten the last chord of the line, in order to indicate and allow for a breathing place, this short silence added to the time that the preceding note is held should together at least equal the full time value of the written note. Sometimes the total time of the note and the breath should exceed the written value of the note, but it should never be less than the note value.

The result of this nervous, hasty, out-of-step movement was a sense of constant conflict that completely eliminated the grand, ennobling effect of several fine hymns sung on that day.

When a tempo is well chosen (not too fast for a large congregation) and perfectly maintained with due regard to the sense of phrase and breathing requirements (such as can be understood more perfectly by singing than by playing), organist, choir, and congregation can then *ride* the music together easily; there is then an inevitability about the rhythm and phrasing that all will feel without thinking about it any more than passengers on a train think about the clicking of the wheels on the rails. Such congregational singing can be inspiring; it is our responsibility as organists to provide such a live-spirited and at the same time well-planned accompaniment that this kind of singing will result.

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AMONG the most interesting items received recently were press reports on an organ concert in Washington, D. C. One of our facile young recitalists attempted to "sell" his music and personality to the audience by means of so-called verbal program notes, which have become a prominent feature of some organ recitals. We have always privately objected to this practice because it places the performer in the unhappy position of having too little confidence in the merits of his playing, so that he feels he must prejudice the audience in his favor before he begins. The names of the artists are deleted from the reviews quoted below, as we are only concerned with the important principle that is involved and do not wish to criticize individuals.

Paul Hume, of the Washington Post Times Herald, commented on the event as follows:

> There is a strange custom in which some concert organists indulge these days that is as annoying as it is inexplicable. The custom is that of giving program notes during the course of the evening. ———— has done this for many years. Last Sunday night ———— added his less than five cent's worth in a display that had little maturity and less intelligent comment behind it.
>
> Take the matter of fugues. Few organ recitals reach their conclusions without bringing forth at least one fugue. Several years ago when he was about to play a Bach fugue in a local recital, ———— told his audience:
>
> "A fugue is something like everyone's getting together and saying, 'Now let's all help the starving people of Europe.' And finally everyone is saying it together, 'Let's all help the starving people of Europe.' "
>
> Last Sunday night ———— said, "A fugue is something like your church choirs. First the sopranos start in with a melody. (Actually it's an old Dutch sailor's song Bach used, but since this is Sunday and we're in church, we won't repeat the words they sang, will we?) And when the sopranos finish with the tune, since they are women they don't stop but just keep right on going. And now the altos join them, singing the same tune. And when they are finished, since they are women too, they keep right on with their sister singers. The left hand brings in the tenors, and finally the feet put in the bass. Eventually it comes to an end, but unlike your church choirs, all the voices of the fugue stop together."
>
> We find these verbal program notes quite unnecessary and rather too much on the cute side. . . . If these were children's concerts there might be some reason for this kind of carrying on. But these are adult affairs, and generally made up largely of organists and those who par-

ticularly like organ music. Not an audience likely to need the kind of condescending drivel I have quoted.

> Organists like to think they are musicians and mature artists just as much as Heifetz or Rubenstein, Stern or Piatigorsky. Yet they have been known to wonder why the general public stays away in droves from organ recitals. Well I can certainly tell them one reason why, more than one if pressed for details.
>
> Can you imagine Arrau or Myra Hess or Renata Tebaldi or Horowitz coming out on the stage of Constitution Hall and talking like that to an audience? Or, say, Heifetz speaking in such language to any audience, particularly one filled with other violinists?

Wendell Margrave, of the Evening Star, said:

> It was a production straight out of Hollywood. . . I, for one, would rather hear a program played with more dignity, more restraint, more refinement of taste, less brandishing of the head in the air, less tossing of thick black curls.

It is clear that the nation's capital enjoys musical criticism of a high order. The public taking to task of these artists for their flashy showmanship should remind all of us that good things are usually the result of a refining process, whereby the dross is separated from the pure gold, the wheat culled from the chaff. We as musicians are by no means the only ones who know this, and the public will eventually pass a severe judgment on artists who are disloyal to the highest ideals of their art. If organ concerts are to achieve full recognition as part of modern musical life, concert organists must divest themselves of all manifestations of cheapness, so that we can attract the interest of those intelligent music lovers who are capable of enjoying something less obvious than a brass band and sideshow. Organ music in its best form is most likely to be understood and appreciated by cultivated, informed people with some musical background. These people like their music straight, unadulterated by circus antics, sales pitches, sermonettes, et cetera. They are offended by the intrusion of such appeals to moronic intelligence. For them a musician must be a man and artist of such stature that he can walk onto the stage and play his program, winning or losing his audience solely by virtue of his performance, unaided by personality effusions, console acrobatics, red cloaks, or any of the paraphernalia of charlatanism.

It seems to me that we must make a choice between two things: we must either try to popularize and appeal to great masses of people whose taste is as yet undeveloped and probably will remain so, or we must address ourselves to the smaller but constantly increasing number of music lovers whose intellectual background and musical sensitivity enable them to appreciate organ music in ideal performances, and try to develop a strong following among them. The limitations of our instrument (it is rather inflexible and comparatively undramatic in its utterance) and the nature of its literature (which is predominantly serious and requires some intellectual capacity for its full comprehension) offer the most compelling arguments in favor of the second alternative.

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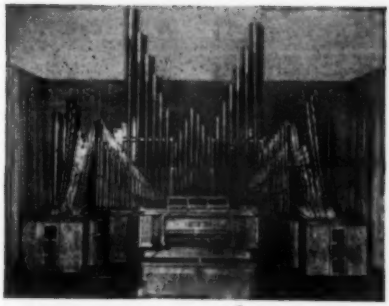

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